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Diagnosis and differential diagnosis of acute appendicitis. •

A Clinical study of

Two hundred and twenty-six cases

In

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By

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Diagnosis and differential diagnosis of acute appendicitis.

I. Introduction

Acute appendicitis is essentially a bacterial infection, involving the appendix, a part or the whole of which may be affected. It is a common disease may occur in any age and both sex. appendicitis is the most frequent surgical condition within the abdomen and contributes more to the general mortality than any other purely surgical condition. The mortality could be lessened if prompt diagnosis were made and early appendectomy could be carried out in early case. The early appendectomy means that patient is operated on within the first twenty-four hours counted from the onset or thereafter as soon as possible. Usually the diagnosis of acute appendicitis is easy, but sometimes it is very difficult, because many conditions may give the similar symptoms and signs. In some cases who suffer from other conditions which may be mistaken for appendicitis, the operation may be contraindicated, so the differential diagnosis of acute appendicitis is very important.

Case of acute appendicitis is quite often met within the surgical ward of the W.C.U.U. general Hospital, but sometimes the diagnosis is wrong. The purpose of this thesis is to use a series of cases to find out the diagnostic points of acute appendicitis, and the differential diagnosis from other conditions which is sometimes mistaken for acute appendicitis. 226 cases were collected and learned.

II. Historical review.

A century ago, attention had been called to the field that inflammation occur in the appendix.

The significance of the lesion was first definitely recognized by Mesnier of France in 1759. He demonstrated at (acute) autopsy an acute inflammatory lesion of the appendix. That is the first recorded case of disease of the appendix.

Parkinson in 1812 . found at autopsy a perforation of appendix in a child who died after being sick for 2 days. He regarded the perforation as the cause of the fatal peritonitis.

Louyer Villermay described two cases of gangrenous appendicitis in 1824. He emphasized the fact that inflammatory processes involving the appendix developed progressively and rapidly.

Melier presented a carefully thought out paper in 1827, which was based on 5 cases . Melier is believed to have been the first one who recognized a case of appendicitis during life. He laid special stress on the pathogenesis and suggested the possibility of fecal masses as a causative factor. For years attention was directed to the cecum and adjacent structures. In the study of the disease, he introduced the term "perityphilitis".

Wellard Parker first advocated in 1881, incision and drainage.

Kelly had the first successful operation for removal of the appendix. The report of the first case was made on April 24, 1887.

John B. Deaver had very clearly outlined the early history of the subject in his country and advocated the removal of the appendix as a rule.

(C) Charles McBurney's of Roxbury, Massachusetts discovered McBurney's point as a landmark for appendectomy. With 20 years it had attained the position of being the most common of acute abdominal illness.

III. Surgical anatomy of appendix.

Length of appendix; vary from 2 to 20 cm.

Thickness of appendix; vary from 3 to 15 mm.

Position of appendix. It may be in any one of the nine:

Different positions:

(1) Into the pelvis

(2) Along the iliac vessels.

(3) To the promontory of the sacrum.

(4) Posterior to the cecum.

- (5) Under the ileum.
- (6) Lateral to the cecum.
- (7) Into the iliac fossa.
- (8) Among the coils of the small intestines.
- (9) Mesial to the cecum.

Vascular supply of appendix.

In free border of the meso-appendix runs the appendicular artery, accompanied by the vein, passing behind the ileum as it runs from the ileo-colic artery to reach the meso-appendix.

Accessory appendicular artery is a branch of the posterior cecal artery, also to the meso-appendix.

Lymph drainage of appendix.

The lymph drainage of appendix passes by channels accompanying the blood vessels to the ileocecal glands that drain the lower end of the ileum and cecum.

IV. Etiology of acute appendicitis.

Constipation.--- It is usually associated with appendicitis yet in many cases an attack of diarrhea ushers in the disease. W.H. Woden stated that stagnation is not sufficient to cause appendicitis. Enterolith or fecolith plays a considerable part in the cause of appendicitis, but principally in the secondary and recurrent types, fecal matter may be found in the appendix. The contents of normal appendix are rapidly discharged into the cecum. It is questionable whether fecal matter is normally present. If the fecolith were larger than the lumen of the appendix it might be either act as a mechanical block which by preventing discharge of the appendix causes distention and favors infection, or it may cause perforation by direct pressure and necrosis of the wall of the organ.

Obstruction.--- Appendix is a narrow blind sac and is therefore very liable to become obstructed. One of the most important factors in appendicitis

lar disease in the occurrence of obstruction to its lumen. The obstruction is due usually to impaction of enterolith, or foreign body as stone, seeds, of various kinds, pin, beads and even teeth. This may lodge in the appendix but they rarely precipitate an acute attack. Stenosis of the appendix predisposes it to obstruction. A stenosis may be congenital in origin due to fixation of the appendix in the retrocecal position or due to kinking by such a band as the genito-mesenteric ligament which tacks down the mid point of the appendix toward the pelvis, or it may be acquired from inflammatory swelling. Obstruction of the appendix is sometimes due to intestinal parasite.

Obstruction to the circulation, owing to vessels lying behind the cecum owing to the artery not running out to the end of the appendix, may be a predisposing factor.

Bacteriology.---- *B. Coli* and staphylococci are common, streptococcus, tubercle bacilli and actinomycosis are rare. Usually it is a mixed infection.

V. Analysis of cases.

A. Incidence.

Age.---- Appendicitis may occur in any age. It is most common in young adult life that is in individuals from the ten to thirty five years of age. The explanation for this is that the lymphoid tissue in the wall of the appendix is most abundant in childhood and adolescence and after the age of thirty it tends like lymphoid tissue elsewhere, to atrophy. The lymphoid tissue of the appendix is probably to be regarded primarily as an advance guard in the defence of the body against bacterial invasion and it bears the brunt of every microorganism assailing the proximal colon as in the tonsil but it often fails and is occupied by the invader and forms a valuable safe guard and then it becomes a potential as well as actual danger. The orifice of appendix is wide during infancy but gradually narrows down and becomes partly occluded by a valve formed by a fold of mucous membrane. It is partly for this reason that appendicitis is rare in infancy, but common after the

first few years of life where a small lesion may obstruct the narrow lumen. In later life the appendix atrophies and diminishes in size and consequently appendicitis is again uncommon.

Age incidence

	cases	Percentage
3----10	10	4.4 %
11---20	53	23.5 %
31--- 30	105	46.4%
31---40	36	16%
41--- 50	17 (17)	7.5%
51---60	4	1.7%
61---70	1	0.5%
Total	226	

Among this 226 cases the youngest was 3 years old and the oldest was 64 years old. The most common age group is 21 to 30 years. The next common group is from 11 to 20 years. This is in agreement with the statement that appendicitis is a disease of young and early adolescent life.

Sex.--- Male are somewhat more commonly affected than female in acute appendicitis.

	Cases	Percentage
Male	162	71.7%
Female	64	28.3%
Total	226	100%

Among 226 cases, 162 were male and 64 were female, a ratio of 2.53: 1.

Occupation.

	cases
Student	70
Military officer	30
Soldier	5
Merchant	31
Worker	21

Officer	21
Nurse	11
Doctor	9
Housewife	21
Children	10
Total	226

Among these 226 cases, quite a large number of the patients are educated people, perhaps the educated incline to accept new ideas and modern scientific medicine.

Symptoms and signs are included in the diagnosis and differential diagnosis of acute appendicitis.

Among these 226 cases, 200 of them are diagnosed as acute appendicitis both clinically and pathological and postoperatively. The other 26 cases, some of them the clinical diagnosis was wrong. I use the 200 cases with correct diagnosis to state the diagnosis of acute appendicitis and the other 26 cases for the differential diagnosis.

B. Diagnosis of acute appendicitis.

The diagnosis of acute appendicitis depends upon the symptoms, signs and laboratory findings.

A) The history immediately prior to the onset of pain.--

Appendicitis ordinarily occurs during normal health without prodromal symptoms.

It may be preceded by general malaise, indigestion, vague abdominal pain or disturbance of bowel movement.

Among these 200 cases of acute appendicitis, 3 cases had epigastric discomfort before the onset of abdominal pain, 2 cases had impaired appetite and epigastric discomfort first, then followed by abdominal pain, 2 cases had feverishness, headache, general malaise before the attack of abdominal pain, 1 case noticed general malaise and discomfort around umbil

icus before the onset of abdominal pain and another case noticed abdominal distention first.

B) The symptoms and local signs of acute appendicitis.-

(1) Pain.- It is generally sudden in onset. In majority of cases, the pain is first referred to the epigastric or umbilical region, later on it is localized in the right iliac fossa. Sometimes the initial pain is felt all over the abdomen, or is in the hypogastrium. When the appendix is retrocecal in position the initial pain may be felt in the right iliac fossa. If appendix lies along the mesenter or near the urinary bladder the pain will radiate into the testicle or thigh with painful urination.

Location of pain in acute appendicitis.

	Cases	Percentage
Epigastrium	85	42.5%
Umbilicus	58	29 %
All over the abdomen	24	12 %
Hypogastric	4	2 %
Right iliac region	26	13 %
Left lower quadrant	3	1.5 %

The nature of the pain.

It may be dull and continuous or intermittent, more often become worse gradually.

It is sometimes mild or distended in character. It may be dull continuous with acute colicky attacks. Whenever there is occlusion of the lumen and great distension of the appendix, the pain is colicky and very severe.

Nature of the pain in acute appendicitis.

	Cases	Percentage
Dull	93	46.5 %
Colicky	107	53.5 %

(2) vomiting, nausea, and anorexia.--

Vomiting occurs usually a few hours after the initial pain and is not persistent. many patient s only hadnausea. others may have loss ofappetite or repalsion for food. Some patients may have no nausea or vomiting.

Nausea and vomiting in acute appendicitis.

	Cases	Percentage
Vomiting	89	44.5 %
Nausea	93	46.5%
Anorexia	87	43.5 %
No nausea or vomiting	39	19.5 %

(3) Local tenderness.-

Local tenderness isthemost valuable sign ofacute appendicitis, because it is the most frequent and least variable. The early tenderness isdue to the inflammation of appendix. It is deep and situated over the organ. It can be elicited almost from the onset ofthe attack, occasionally, palpation can not detect it.

The palce where deep tenderness can almost always bedetectedis a spot just below the middleof a line joining the anterior superior iliac spine and the umbilicus , this corresponds to the base of the appendix. Tender-ness over the McBurney's point is not so constant. Sometimes the tenderness may be due to adjacent peritoneal irritation.

If the appendix is situated in the pelvis, rectal examination will frequently elicit pain on pressin g on theappendix. If the appendix lies in a retro-colic posotion behind the ascending colon, the maximal tenderness is in the right loin just alone the iliac crest. With a high-lying appendix the tenderness is above the umbilical level in the right hypochondrium, or if lowly placed it may be appreciated just alone the inguinal ligment, or the right pubic bone.

Among this 200 cases of acute appendicitis, 132 cases had tenderness over the right lower quadrant. 65 cases onlyhad tenderness over(epigast) the McBurney's point. 9 cases had tenderness over the epigastric region asso-

ciated with tenderness over right lower quadrant. 15 cases had generalized abdominal tenderness, most of them had ruptured appendix and with secondary peritonitis.

(4) Local hyperaesthesia.-

It is usually on right side, occasionally bilateral. The area is of the distribution of the nerves from 10th to 12th dorsal and first lumbar spinal segments. Sometimes the hyperaesthesia in Shenen's triangle is obtained. Hyperaesthesia depends largely on the degree of distension of the appendix. among this 200 cases, 49 had hyperaesthesia over the R.L.Q. of the abdomen.

(5) Local muscular rigidity.-

It is frequently present, but not a constant symptom in the initial stages. The degree of muscular rigidity varies roughly with the severity of the infection. In most cases extreme muscular rigidity coincides with commencing peritonitis and even slight degrees with persisting are due to irritation of the parietal peritonium. (Unfrequent)

In unperforated appendix situated in the pelvis, rigidity of the abdominal wall is absent. Among this 200 cases of acute appendicitis, 67 cases had muscular rigidity over McBurney's point, 112 cases had muscular rigidity in R.L.Q. of the abdomen, 8 cases had generalized muscular rigidity of the abdomen which were due to peritonitis from the ruptured appendicitis, 4 cases had muscular spasm of the R.L.Q. and R.U.Q. of the abdomen, 9 cases had no muscular spasm.

(6) Fever.-

It may not be present at the beginning at the attack, but nearly always developed before 24 hours have passed. Before rupture 2° to 3° Fahrenheit above normal. After peritonitis developed due to perforation of appendix then the temperature rises high. If at the beginning of abdominal pain temperature rises 103° F or 104° F it is against the diagnosis of appendicitis.

very rarely the illness may start with a rigor. Chills may occur rarely and if repeated are somewhat suggestive of a severe infection of the appendix

with thrombosis of its vessels.

Temperature in acute appendicitis.

	Cases	Percentage
98 F -- 99 F	92	46 %
99.1-- 100 F	64	32 %
100.1-- 101 F	23	11.5 %
101.1-- 102 F	15	7.5 %
102.1-- 103 F	4	2 %
103.1-- 104 F	2	1 %
Chiliness	49	24.5 %

(7) Constipation.-

Constipation is common in cases of acute appendicitis, but there may be diarrhea. Some of the patients may have one or more actions of the bowel before the constipation. Diarrhea of the reflex type produces normal or fluid stools without blood or mucus. In cases of pelvic appendix, irritation of the rectum may cause diarrhea or tenesmus.

Bowel movement in acute appendicitis.

	Cases	Percentage
Constipation	111	55.5 %
Diarrhea	23	12.5 %
First constipation then diarrhea	13	6.5 %
First diarrhea and then constipation	11	5.5 %
Desire of defecation	10	5 %
B.M. once daily	32	16 %

(8) Pulse.-

Pulse slight accelerated in the early stage, may be normal. It increases with the increase of temperature according to the intensity of the infection. If no peritonitis, it is slightly or moderately accelerated. Pulse rate quickens with the onset of peritonitis and loses volume.

Pulse reat

Pulse rate in acute appendicitis .

	Cases	percentage
60---80 per minute	85	42,5 %
81 ---100 " "	74	37 %
101-120 " "	35 %	17.5 %
121-140 " " ③ ✓	6	3 %

(9) Leucocytosis.-

The white count usually is moderately elevated, It maybe normal or below normal. The differential count is important , polymorphonuclears are predominant, If the case is complicated with peritonitis , the white count goes up very high.

White count in acute appendicitis.

	Cases	Percentage
Below 10000	28	14 %
10000-20000	138	69 %
20000--30000	34	17 %
30000--40000	3	1.5 %

(10) Rectal examination.-

Rectal examination will reveal definite tenderness when the appendix lies along the posterior wall or over the dege ofthe pelvis. More frequently the appendix lies alittle higher, hanging over the brim, In this condition tenderness is not found rectally.

Among this 200 cases of achte appendicitis. 85 cases had tenderness on right side of the rectum by rectal examination.

(II) Others signs may be found in cases of acute appendicitis.-

1. The obturator test. (Thigh rotafion test) It is positive when a perforated appendix, a local abscess and occasionally when a hematocele is in contact with the obturator internus , or when there is an accumulation of inflammatory fluid in the pelvis.

2. Psoas test.- The irritation and reflex rigidity of the iliopsoas from perforation of the appendix lying in the iliac fossa on the ileacus or psoas frequently cause the patient to hold the right thigh flexed and pain is felt if the right thigh be fully extended as the patient lies on the left side.

3. Rousing's sign.----- Even pressure is exerted over the pelvic colon. This forces gas into the cecum. If pressure on the left causes pain to be felt in the right iliac fossa the case is probably a case of acute appendicitis.

Among this 200 cases, Obturator test positive in 41 cases, psoas test positive 59 cases, and Rousing's sign present in 25 cases.

(12). Urinary symptoms.-

If the appendix hangs down into the pelvis it may come in contact with the urinary bladder, then frequency and urgency of micturition and pain during urination present. RBC, and pus cells may be found in the urine as the bladder is involved in the inflammation. The right ureter is occasionally involved with similar symptoms mentioned above.

Among 200 cases, 25 cases had trace albumin and a few rbc and wbc in the urine. several cases had urgency and frequency of urination.

(13) In the early stage of acute appendicitis, many patients have the gas stoppage sensation, but it may be so mild in some patients and it may be so mild in some cases, therefore it may be overlooked. The gas stoppage sensation disappears usually as localization begins. It is a symptom.

Pain persistent in midline despite defecation. Bowel rugæ associated with pain persists despite defecation, diarrhoea and nausea which occurs subsequent to pain constitutes the gas stoppage sensation.

The gas stoppage sensation absent in cases of perforation peptic ulcer, renal disease, gall stone colic and acute cholecystitis also absent in many

cases of acute salpingitis, ectopic gestation and enteritis. It occurs consistently at onset of acute intestinal obstruction of small bowels. Vomiting rapidly comes to exceed the downward urge. The gas stoppage sensation is not obtained in this 200 cases of acute appendicitis, because nearly all the patients came to hospital rather late and the symptoms might be overlooked and it is not traced during enquiring the history.

The order of occurrence of the symptoms is important in diagnosis of acute appendicitis. That is: (1) pain usually in the epigastrical or umbilical region, (2) nausea or vomiting, (3) Local iliac tenderness, (4) fever, (5) Leucocytosis, and (6) Local rigidity is common, but not constant.

Acute appendicitis with local peritonitis.

The pain will be more severe and entirely in the right iliac fossa and lower part of the abdomen spreading across toward the left side. Pain tenderness and muscular rigidity are all marked especially on the right side and abdominal distension, respiratory movement will be limited. Vomiting occurs more often. Abdominal distension with the presence of a dull note percussion in the right iliac fossa will be noted frequently. Pulse rate elevated. All the signs and symptoms are still however, more marked on the right side of abdomen. After local peritonitis has set in a palpable mass may begin to form around appendix. It will be occurring in whichever situation the appendix lying position. The white count is usually higher than in simple acute appendicitis. Among this 200 cases, 25 cases had local peritonitis.

Acute appendicitis with general peritonitis.

This is the most grave and fatal form of the disease. It may be resulted from a case mild at first and having been improperly treated for 2 or 3 days. It often sets in suddenly without any preliminary warning, especially common in children and in patients who have strictures, kinkings or fecaliths of the appendix caused obstruction suddenly with distension of its lumen. There may or may not be a history of previous mild attacks. But frequent

quently patient has had " bilious attacks " The onset is sudden, the pain is intensively severe, vomiting is marked and progressive and the patient may (occur) collapse . one or more rigors may occur , The patient rapidly becomes seriously ill, Though for a short time the signs and symptoms may point to the right iliac fossa they soon become generalized.

Acute appendicitis with localised abscess.

It is an extension of acute appendicitis with local peritonitis. The local peritonitis spreaded to a certain degree ,and a mass has been formed, within which suppuration and abscess formation occur. It is most likely that an abscess will not form until the disease has been present at least for three days, If it is not properly treated , general peritonitis may be set in as the result of the rupturing of the abscess or intestinal obstruction may be resulted from the adhesion it causes . When an appendical abscess is present there usually have been two or more days history of illness, pointing to appendicitis . the patient is found to have a somewhat high evening temperature of 102 to 103 F though in some very chronic cases it is normal . The pulse rate is raised, the patient looks ill and toxic, with a dirty tongue and constipation , distension and tenderness over the right iliac fossa/round , and tympanites are present while a round, tender firm swelling with rigid muscles over it will be detected. This may be in the pelvis, right iliac fossa or the loin . It is hot but probably fluctuation is not detected. leucocytosis is present and the swelling will increase slowly in size, becoming softer and more tender. among this 200 cases only 4 cases of acute appendicitis with localised abscess.

Acute appendicitis in children

Appendicitis is the most common condition of the acute abdominal emergencies of children . It may occur at any age ,but is rare in infancy and is seldom met with under three years. Onset is abrupt , pain is the first symptoms, which is colicky at first and is to be localised near the umbilicus . Vomiting

follows the pain ,may be slight or marked . The lower bowel may be rapidly emptied by two or three loose motions. Within a few hours, temperature rises three or four degrees. Pulse runs up to 130 or so a minute. Child looks pale and ill , food is refused. Bowel movement after an initial emptying become constipated pain slight shifted , later on to right lower quadrant . Abdomen shows limitation of normal respiratory movement. Right iliac fossa may seem to be slight full. rigidity of anterior abdominal wall is most marked over the lower half of the right rectus muscle . Area of maximum tenderness about half-way between the umbilicus and right anterior superior iliac spine. when an abscess forms around the appendix, a tender mass maybe felt occupying the right iliac fossa . Rectal examination revealed tenderness over right side or an abscess may be felt . The symptoms and signs may vary according to the position of the appendix. & If the appendix hangs down into the pelvis it may come in contact with the bladder or rectum . Both diarrhea and frequency of micturition present . and the maximum tenderness is in the and above the pelvis. If the appendix in a retrocolic position behind the ascending colon the maximum tenderness is in the right loin just above the iliac creast . There may be spasm of the iliopsoas muscle causing the right hip to be persistently flexed . The younger the child, the greater the obscurity of symptoms . In children , acute appendicitis tends to be very severe and perforation and general peritonitis are frequent with rapid sequels, so the mortality is higher than in adults.

Appendicitis in the elderly.-

The frequency of appendicitis decreases as the age rises , but it is still one of the common acute abdominal condition. Symptoms are like those in young adults. Constitutional and local reaction to peritoneal infection is likely to be less marked, Fever is usually absent. Pulse rate usually not elevated . On physical examination , spasm and local tenderness is less definite . The defensive mechanism of the peritonum is less active and the resistance of the patient to infection is low so that wide spread peritonitis

is relatively more frequent. Appendicitis in elderly patients usually takes a severe form. Suppuration and peritonitis are common and abscesses are often seen because the patient's general powers of recovery is much diminished.

C. Differential diagnosis of acute appendicitis.

Diagnosis of appendicitis is usually easy, but sometimes is difficult because of many diseases can cause the symptoms and signs similar to those of appendicitis so the differential diagnosis must be considered.

The following diseases were found to be confused the acute appendicitis in our hospital/

(1) Tuberculous disease of the cecum. - case report.

case	I	2
Age, occupation and	25, worker, male	25, student, male
marital state	single	single
Duration of P.I.	10 days	3 days
Abdominal pain		
↓ Location	Severe colic	severe colic
↑ Nature	R.L.Q.	First epigastric, 24 H later shifted to R.L.Q.
Nausea	No	Yes
Vomiting	No	No
Chill and fever	No	Had feverishness
Appetite	Impaired	Impaired
Bowel movement	Loose stool once daily for 7 days then constipated	Once daily
Past history	Had chronic cough with whitish Sputum for years, no hemoptysis	Had hemoptysis
P.E. of chest	Some rales in left lower Impaired resonance over left upper.	Dullness left upper

Abdomen tenderness	RLQ.	R.L.Q.
And rigidity	RLQ.	R.L.Q.
Rectal exam.	Tenderness over right side	tenderness over right side
Temperture	99.5 F.	101 F.
Pulse	85	81
Resp rate	20	22
B.P.	116/82	114/72
White count	14000	11852
Diagnosis before operation	Ruptured appendicitis	T.B. cecum, Pul T.B. Appendicitis.

Postoperative diagnosis

T.B. cecum

T.B. cecum.

Pathological diagnosis

The following few points are in favor of T.B. cecum rather than appendicitis

(1) In the past, first case had chronic cough with whitish sputum for years. The second case had hemoptysis.

(2) The onset of pain may be acute or insidious. The nature of the pain in ileocecal obstruction due to tuberculosis is more gripping and intense than in appendicitis.

(3) Diarrhea alternated with constipation

(4) Physically, chest, Lungs first case had impaired resonance over left upper of the lung. Some rales in the left lower. Second case had dullness on left upper of the lung.

(5) The course is not so rapid.

(6) X-RAY examination may help the diagnosis.

(7) Sometimes a indurated tender mass may be felt in right iliac fossa, but it is not felt in these 2 cases.

The differential diagnosis of acute appendicitis with

(2) acute gastritis, acute gastroenteritis and acute colitis. Case report

case	1	2	3	4
age	25	27	37	17

Case	I	2	3	4
sex	M	M	F	F
occupation	Military man	Merchant	House wife	Student
Duration of P.I.	9 Hours	9 hours	One 1/2 day	4 days
Abd pain nature	Sudden onset & severe	Sudden onset continuous & boring	Sudden onset dull	Dull
location	1st epigastric then general abd pain.	Epigastric	Epigastric then to umbilical finally to R.L.Q.	1st R.L.Q. then general abd pain/
Nausea	No	No	No	Yes
Vomiting	Yes	Yes	Yes	Yes
chill & fever	No	Had chillness	Chillness & feverishness	
Temperature	98 F.	98.8 F	102 F.	101.2 F.
Appetite	Impaired	Impaired	Impaired	Impaired
B.M.	No B.M. Since onset	B.M. twice	5-6 times daily	2-3 times daily
Stool			Mucus in stool	Loose stool
P.P. of abdominal tenderness	General abd esp. upper part) The upper abd	epigastrium . Tr side of u umbilicus	General abd	McBurney's Point.
Abd rigidity	Neg	Neg	Lower abd	"
Rectal exam. Tenderness	Rt side	Neg	Tenderness Rt side	Slight tender both sides
Pulse	89	83	118	109
Resp rate	20	20	29	28
B.P.	130/100	100/74	108/68	94/50
W.B.C.	12100	16000	22950	16100
Preoperat diagnosis	Acute gastritis " appendicitis	Acute gastro- enteritis " appendicitis	DITTO	Acute enterocolitis " appendicitis.
Postoper diagnosis	Acute appendicitis	DITTO	Ruptured appendix abscess	Ruptured appendicitis

The following few points may differentiate the above mentioned gastro-intestinal disorders from appendicitis.-

(1) The pain . - First in epigastrium then became general abd in case 1 or first in epigastrium then to umbilicus and finally to lower abdomen in case 3 all suggestive appendicitis . In case 4 pain first in R.L.Q. then became general abd this suggests appendicitis became ruptured.

As to the nature of the pain , dull continuous and paroxysmal chocky all may be met in cases of acute appendicitis.

(2) Vomiting followed the pain is the rule of acute appendicitis.

(3) Temperature (102 F) usually slightly or moderately elevated in case of appendicitis , in case 3 temp. 102 F is rarely in acute appendicitis but when appendiceal abscess found or peritonitis developed the temp may go to very high.

(4) Impaired appetite is also a symptoms of acute appendicitis.

(5) B.M. diarrhea also maybe found in case of appendicitis due to irritation to rectum or colon.

(6) Tenderness in case 1 general abd especially upper part , In case 2 epigastrium and right side of umbilicus , in case 3 general abd and in case 4 in McBurney's point. all suggest appendicitis.

(7) Rigidity in case 1 & 2 . no abd rigidity . It is not against appendicitis because in retrocecal or pelvic appendix usually the rigidity is absent. In case 3 rigidity over lower part of the abd in case 4 rigidity over McBurney's point is suggest appendicitis .

(8) Rectal examination tenderness on the right side of the rectum is suggested appendicitis . Tenderness on both sides maybe due to peritoneal involvement from ruptured appendicitis. In retrocecal appendicitis , rectally may be negative

(9) White count in case 1 is 12100, in case 2 is 16000 , in case 3 is 23950 , in case 4 is 15100 these maybe found in case of acute peritonitis appendicitis and in acute gastritis or acute enteritis

(10) In case of acute gastrointestinal disorders, nausea and vomiting usually precede the pain this condition was not present in these 4 cases.

(11) Diarrhea is dominant in case enteritis or colitis in these 4 cases the diarrhea is not dominant.

(12) In acute enteritis, pain is diffuse and cramp-like and does not tend to be localized.

(3) Acute cholecystitis. Cases report/

Case	1	2	3
age	40	37	31
sex	F	M	M
occupation	House wife	trader	Merchant
Duration of P.I.	11 days	3 days	2 days
abd pain	Dull & (cont.) distend	severe colic " inter	Colic con
nature	3-4 times daily 1-2 H	mittent	tinuous
Location	1st epigastrium then to middle abd & Rt lumber region.	epigastric region	epigastric one day then to R.L.Q.
Nausea	No	Yes	No
Vomiting	Yes	No	Yes
Chill & fever	Chilliness & feverishness	feverishness	No
temperature	97.8 F.	100.8 F.	100.8 F.
appetite	lost	impaired	impaired
B.M.	Constipated	once daily	constipated
P.H.	4 years ago had once epigastric pain with chilliness & fever for 10 days.	Neg	Had frequent attacks of abd Pain.
P.E/.	A tender mass in the epigastrium spleen palpable	Abd full	

	1	2	3
abdominal tenderness	indefinite tenderness over R ⁺ side	Upper part of R ⁺ side marked around McBurney's point	Rt flank & R.L.Q.
Abd rigidity	Increase resistance over epigastrium sep rt side. Ⓢ	R.U.Q. & R.L.Q.	Abdominal Slight rigid
Rectal exam.	Neg	Neg	Neg but psoas & obturator tests are positive
Pulse	70	74	112
resp rate	20	28	23
B.P.	96/60	120/90	150/80
White count	39000	13500	13150
Preoperative diagnosis	Chr cholecystitis With acute exacerbation chr pancreatitis	Acute cholecystitis Acute appendicitis.	Diff
Postoperative diagnosis			Retrocecal
Pathological "	Ruptured appendicitis chr pancreatitis	Acute appendicitis	appendicitis With ruptured

Retrocecal appendicitis may give the very similar symptoms and signs of cholecystitis but few points are different from which we may differentiate from those two conditions.

(1) The pain, in case 1 it is dull and distended in case 2 it is severe and colic in case 3 it is colicky and continuous, these types of pain may be found in case of acute appendicitis. In case of cholecystitis usually there is a rapid onset of severe lancinating pain, As to the site of the pain in case 1 first epigastric then to middle portion of the abd and rt lumbar region in case 2 in epigastric in case 3 first epigastric then shifted to R.L.Q. all of them suggest appendicitis, In case of cholecystitis pain is in gall bladder region of segmental nature referred to the right subscapular

region and tend to remain in the upper part of the abdomen.

(2) Nausea and vomiting may be present in both conditions but in cholecystitis the vomiting is more marked.

(3) Temperature in case 1 is 97.8 F. in case 2 and 3 is 100.8 f. slight fever is found in case of acute appendicitis. In acute cholecystitis the temperature is usually higher may be 103 or 104 F.

(4) Past history in case 1. 4 years ago patient had once epigastric pain with chilliness and fever for 10 days. This may suggest cholecystitis but not certainly. Many other diseases may cause these symptoms. In case 2 patient had frequent attacks of abd pain in the past. Many conditions can cause abd pain other than cholecystitis.

(5) Tenderness in case 1 there was indefinite tenderness over rt side it is not against appendicitis, because in case of retrocecal appendicitis there may be tenderness over the ascending colon but not marked. In case 2 tenderness over upper part and rt side of abd. Marked around McBurney's point, this is suggestive to appendicitis. In case 3 tenderness over rt flank and R.U.Q. also suggest appendicitis. In case of cholecystitis tenderness is felt more in the rt hypochondrium.

(6) Rigidity. in case 1 over epigastrium especially rt side, it is suggestive to cholecystitis. In case 2 over R.U.W. and R.L.Q. and in case 3 slight rigid over all abd may be found in case of ruptured appendicitis. In case of cholecystitis.

(7) Rectal exam. it is negative in case of cholecystitis. In appendicitis it also may be negative if the appendix is in a high position.

(8) Psoas and obturator tests positive in case 4 this is suggestive of appendicitis.

(9) White count. in case of appendicitis it is usually moderately elevated as in cholecystitis it is higher as in case 1 39000 but in case of ruptured appendicitis with abscess formation or peritonitis, the white count may be high.

(10) In case ¹ there was a tender more in the epigastrium it is more like
ly to be the gall bladder, ¹n appendicitis if abscess formed, a mass may
be felt but usually is not so high as in the epigastrium/

(4) Perforated peptic ulcer. Case report.///

case	1	2
age	30	35
sex	M	M
occupation	Military man	
Duration of P.I.	8 hours	3 days
abd pain	1st dull distended and	severe intermittent
nature	c ntinuous then severe	
Location		
Nausea	Yes	No
Vomiting	No	Yes
Chill & fever	Feverishness	Feverishness
Temperture	103 F.	99 F.
Appetite	Poor	Impaired
B.M.	No N.M. since onset	Constipated
P.H.	Neg	Had dull intermittent epogas tric pain with food relief and dark stppn fpr 5 yrs
P.E.		Impaired liver dullness
Abd tendernes s	Whole abd esp left flank and R.L.Q.	Epigastrium and R.L.Q.
abd rigidity	Lower abd	epigastrium and R.L.Q.
rectal exam.		
pulse rate	119	139
Resp rate	18	25
B.P.	120/85	102/66
White count	8800	19450

preoperative	acute appendicitis with	Peritonitis due to appen
diagnosis	spreading peritonitis	dicitis or perforated
	(ruptured appendix)	peptic ulcer.

Peritonitis due to ruptured peptic ulcer

Postoperative	ruptured appendicitis	Retrocecal appendicitis
diagnosis	with peritonitis	with reuptured and peri-
		tonitis

The following few point may differentiate perforated peptic ulcer from appendicitis ;

(1) The past history - In diagnosis of perforation of peptic ulcer, the past history suggesting peptic ulcer is of some value , but in some cases of perforated peptic ulcer may have no previous ulcer history . some cases had history of peptic ulcer but not necessary indicate perforation . as in case 2

(2) The pain- Pain in perforation of peptic ulcer is very severe sudden onset and excruciating in epigastrium associated with primary shock. In case 1 the pain first is dull and distended and continuous located in epigastrium then became severe in central part of abd. later on in whole abd . It is likely a case of appendicitis with ruptured rather than perforation of ulcer. In case 2 the pain was severe intermittent located in epigastrium , in case of retrocecal appendicitis the pain is in epigastrium In these two cases there is no primary shock or collapse as in case of perforation of peptic ulcer. Pain may be referred to the shoulders in case of perforated peptic ulcer.

(3) Tenderness.- In case 1 the whole abd was tender, especially left flank and R.L.Q. This condition is due to peritoneal irritation may be found in case of perforated peptic ulcer or ruptured appendicitis. In case 2 tenderness over epigastrium and R.L.Q. which is suggestive appendicitis.

(4) Rigidity/- In case 1 rigidity over lower abd . in case 2 rigidity over epigastrium and R.L.Q. . These conditions are in favour of appendicitis .

In case of perforated peptic ulcer , whole abd became rigid not a part.

(5) Fever.- Elevated pulse rate and leucocytosis may be found in both condition

(6) Impaired liver dullness was found in case 2 it is in favour of perforated ulcer but the physical signs are sometimes not very (ever) sure. Fluorascopy of the abd is helpful in these conditions.

(5) Renal colic.-- case report.

Case	1	2	3	4
Age	19	58	28	20
Sex	F	F	M	M
Occupation	Student	House wife	Military man	Student
Duration of F.I.	5 hours	2 days	3 days	5 hours
Abd pain	Colic periodic; 1st dull & distending later colic	Colicky	Continuous " distended	
Location	R.L.Q.	Umbilicus to the lower abd	Umbilicus 14H. To R.L.Q.	Rt lumbar & R.L.Q. R. scrotum.
Nausea	No	No	Yes	No
Vomiting	Yes	Yes	No	No
Chill & fever	No	No	Yes	No
Temperature	98.2F.	98.4F.	100F.	98.4F.
Appetite	As usual	Impaired	impaired	
B.M.		Constipated		
Urine	Alb trace RBC ++ Few WBC.	Alb trace * Pus cell ++	Alb +++ RBC. ++++	Alb trace few wbc & Rbc.
Abd tenderness	R.L.Q. & RT. Lateral & Hyperesthesia	R.L.Q. L.L.Q. Rebound tender Present	R.L.Q.	R.L.Q.
Abd rigidity	R.L.Q.	No	R.L.Q.	No
signs	Psoas & Obturator tests +	Neg	neg	neg

rectal exam.	neg	neg	Tenderness of	neg
			Rt side	
Pulse	70	80	100	81
Resp rate	18	20	23	19
B.P.	102/66	100/62	101/60	116/70
Whts count	10500	21800	10150	12450
Preoperative	Acute appendicitis			
diagnosis	Urinary colic	DITTO	DITTO	DITTO
postoperative				
diagnosis	Acute	DITTO	Acute appendicitis	Acute appendicitis
	appendicitis		Latent syphilis	

In differentiation of renal colic from appendicitis the following few points we must considered:---

(1) The pain in renal colic tends to become maximal shortly after the beginning of an attack and continuous with great severity colic in appendicitis more intermittent, owing to peristalsis and seldom begins in an excruciating manner. In renal colic the pain is often out of proportion to other signs and symptoms, pain radiated to bladder and genitalia, pain usually on one side and localized to the back and loin then shoots down to the groin testicle and thigh. In case 1 the pain was colicky periodic and localized to R.L.Q. In case 2 the pain was first dull and distended then became colicky and localized first around the umbilicus soon to lower abd. In case 3 the pain was colicky first in umbilical region then to R.L.Q. In these cases the nature and location of the pain is in favour of appendicitis rather than renal colic. In case 4 the pain was in rt lumbar, R.L.Q. and rt scrotum suggested renal colic, but the pain is continuous and distended in nature not colic. In case of appendicitis pain maybe felt in rt lumbar region or scrotum/.

(2) Tenderness, In case of renal colic may be tenderness in the loin or costovertebral angle. In case 1 tenderness over R.L.Q. and Rt lateral, In case 2 tenderness over R.L.Q. & L.L.Q. with rebound tenderness. In cases 3&4

tenderness over R.L.Q. these suggest appendicitis. Hyperesthesia over R.L.Q. in case , also suggests appendicitis.

(3) Rigidity In case of renal colic usually there is no rigidity over the painful area. In case 1 & 3 there was muscular rigidity over R.L.Q. which suggest appendicitis, In case 2 & 4 there was no muscular rigidity which may suggest renal colic but also not against appendicitis, because in retrocecal or pelvic appendicitis usually there is no muscular rigidity.

(4) Psoas and obturator tests positive in case 1 it is suggestive of appendicitis. Rectal exam. revealed tenderness on right side of rectum this is suggestive of appendicitis

(5) Urine/ urinary findings are important in diagnosis of renal colic. In case 1 urine examination revealed albumine trace RBC ++ and few WBC. In case 2 revealed albumine trace and pus cells ++ In case 3 urine revealed albumine +++ RBC++++ In case 4 urine revealed trace albumin few WBC. and RBC these are all strongly suggest renal colic but in pelvic appendicitis may involve the bladder wall, then RBC. and pus cells found in urine.

(6) Urinary symptoms as frequently of and painful urination and hematuria present in case of renal colic. These symptoms also may present in case of pelvic appendicitis if the bladder is involved.

(7) Radiography and cystoscopy with the passage up the ureter of the affected side of a waxtipped bougie may serve to demonstrate a calculus.

(6) Acute pancreatitis. Case report.--

case	I	2	3
age	42	26	47
sex	F	M	M
Occupation	House wife	Worker	Merchant
Duration of	4 days	7 days	5 hours
P . I .			
Abd pain.			
Nature	severe intermittent distended	Colic	colic 7 paraxymal

Location	1st R.L.Q. then R.U.Q. finally Whole abdomen	1st lower abdomen Then epigastrium Whole abdomen.	Epigastrium & upper abdomen.
nausea	No	Yes	No
vomiting	yes	yes	yes
chill, fever/	Yes	chillness	No
Temperature	100 F.	98.6 F/	99 F.
Appetite	Impaired	poor	impaired
B.M.	Constipation	1st constipation then diarrhea	hh hh
B.M.	Constipation	1st constipation then diarrhea	
Laboratory findings		Blood amylase test 32 units	urine albumin+ & few wbc.
Abd tender.	Left side & R.L.Q.; whole abd esp R.L.Q.		Epigastric region and R.L.Q.
Abd rigidity	R.L.Q.	Whole abd & distended	Epigastrium & R.L.Q.
Rectal exam	Neg		Neg
pulse	93	110	105
resp rate	26	28	23
B.P.	94/72	80/60	100/60
White count	11900	29300	28500
preoperative d	(1) ruptured appendicitis	"	(1) acute pancreatitis
diagnosis	with peritonitis	with generalized peritonitis	(2) acute appendicitis
	(2) mild acute pancreatitis		
Postoperative diagnosis & pa thological diagnosis	Acute appendicitis	(1) acute hemorrhagic pa pancreatitis (2) acute appendicitis (3) generalized peritonitis	acute appendi citis

In the differential diagnosis of acute appendicitis and acute pancreatitis the following few points may be helpful;---

(1) The pain - In case of acute pancreatitis the pain is sudden onset, excruciating in nature and felt in epigastric zone and in one or both loins with or without pointing. Pain sometimes felt in left scapular region and occasionally in the left supraspinous fossa. Later on the intensity of the pain diminished but it may be felt over the whole abdomen or perhaps more in the right iliac fossa. In case 1 the pain was severe intermittent and distended in nature, first in R.L.Q. then L.U.Q. and finally whole abdomen. This type of pain is like pain in acute appendicitis with ruptured and peritonitis. In case 2 the pain was colic first in lower abdomen, from the location of the pain we think of appendicitis rather than pancreatitis, later on the pain shifted to epigastric and finally whole abdomen was painful. In case of appendicitis usually the pain is first epigastric then shifted to R.L.Q. not like this case the pain started from lower abdomen to epigastric. The general abdominal pain may be due to peritonitis from ruptured appendicitis or pancreatitis. Colic epigastric pain at first later on become general abdominal which may lead us to think of pancreatitis. In case 3 the pain was colic and paroxysmal in epigastric and upper abdomen. This type of pain may be found in case of early appendicitis and case of pancreatitis.

(2) Shock. - Profound shock usually accompanies the pain manifested as cold extremities sweating skin weak pulse and subnormal temperature. There was no shock in these three cases, probably owing to the inflammation of the pancreatitis was mild in case 2 so did not cause shock.

(3) Nausea and vomiting may be present in both appendicitis and pancreatitis but in pancreatitis it is more persistent.

(4) Temperature, in case of pancreatitis usually in early stage the temperature is subnormal later on become high. In case of appendicitis usually the temperature is moderately elevated. In these three cases the temperature was slightly elevated in favour of appendicitis/

(5) Tenderness .- in case of acute pancreatitis tenderness over the epigastrium is a constant finding the whole abd may be tender. In case, tenderness over left side & R.L.Q. of the abd. tenderness in R.L.Q. was suggestive to appendicitis. but tenderness over left side of abd is rare in appendicitis. In case 2 tenderness over whole abd especially R.L.Q. It might be found in case of peritonitis due to ruptured appendicitis and acute pancreatitis. In case 3 tenderness over epigastrium and R.L.Q. which was suggestive appendicitis rather than pancreatitis.

(6) Rigidity In case rigidity over R.L.Q. which suggested appendicitis. In case 2 the abd was distended rigidity over whole abd which might be found in general peritonitis due to ruptured appendicitis and acute pancreatitis. In case 3 rigidity over epigastrium and R.L.Q. epigastric rigidity is found in acute pancreatitis and R.L.Q. rigidity in case of appendicitis, from this single point the differential diagnosis can not be made.

(7) Epigastric tumor sometimes may be felt due to swelling of the pancreas

(8) Jaundice slight jaundice found in about half the cases. due to that the common duct is compressed by the swollen head of the pancreas.

(9) Ecchymosis of one or both loins is an occasional symptom. This symptom can last only appear after 2 or 3 days from the onset of the disease. When present it is absolutely pathognomic.

(10) Glycosuria is occasionally found in case of pancreatitis.

(11) Increase in the urinary diastase increase of absorption of the pancreatic ferment from obstructed duct due to inflammation of the pancreas leads to an increase in the amount of diastase in serum and consequently in urine, the amount may be determined.

(12) Loewe's test or adrenalin mydriasis is sometimes positive, The test indicated disturbance of the suprarenal by contiguous disease and is found occasionally in acute pancreatitis.

(13) Cyanosis and dyspnea may be found/

(7) Salpingitis .----- case report

case	1	2	3	4
age	28	28	22	25
sex	F	F	F	F
occupation	Treacher			Student
Duration of	3 days	7 days	6 hours	11 hours
P..I.				
Abd pain	Twisting dist	Dull &	severe intense	dull general
Nature	ended & peris	constant	continuous	dragging &
	tent then colic			continuous
Location	1st umbilicus	R.L.Q. radiate		1st general then
	48hrs localized	to rt thigh	R.L.Q.	R.L.Q.
	to R.L.Q.			
L.M.P.	4 days ago		20 days ago	
nausea	Yes	No	No	Yes
vomiting	Yes	No	Yes	No
chill & fever	fever	yes		Yes
Tmp	100F.	99.4F.	99.8F.	102.2F.
appetite	Poor	poor	impaired	poor
B.M.	Constipated	constipated		
P.V. exam.	Cervix eroded	Uterus enlarged	Thickening of	
	bloody discharge	vagina hard	Rt salpinx	neg
	in vagina, tender	bloody discharge		
	over both salpinx			
	fixed & hard			
VE&VD	Hasband had		Hasband had	
abd tender	R.L.Q.	Umbilicus	R.L.Q.	LFL.Q. &
				Rt side esp
				R.L.Q.
Abd rigidity	R.L.Q.	No	R.L.Q.	No
rectal exam	Neg	Neg	Neg	Neg
pulse	90		86	100

resp rate	23	24	21
B.P.	120/88	118/72	110/54
white count	15000	9850	12150
			8300
Preoperative diagnosis	1. acute appendicitis	1. salpingitis 2. appendicitis	1. acute appendicitis 2. acute salpingitis
	2. acute sal	3. mild inf	Ditto
	pingitis	of uterus	
	3. chr endo		
	cervitis		

Postoperative diagnosis.

Subacute ruptured salpingitis	Salpingitis with infection of uterus	Acute salpingitis (No operation)	Acute appendicitis.
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In differentiation of appendicitis and salpingitis the following several points must be considered:--

(1) The pain in acute salpingitis does not so frequently cause epigastric pain at the onset. The salpingitis pain is frequently felt on both sides of the lower abd. commonly pain is worse on left than on right. In appendicitis the pain is more strictly limited to right side. In case 1 the pain was twisting distending and persistent later on became colic first in umbilicus region later on localized to R.L.Q. This type of pain is suggestive of appendicitis rather than salpingitis. In case 2 the pain was dull and constant in R.L.Q. and radiated to right thigh. In case 3 the pain was severe intense and continuous in R.L.Q. In case 4 the pain was dull generalized dragging and continuous first general abd. then localised to R.L.Q. The pain in these three cases also suggest appendicitis rather than salpingitis because pain in salpingitis is usually bilateral rarely unilateral, sometimes acute salpingitis and appendicitis occurs simultaneously then the differentiation is impossible.

(2) Tenderness - In case of salpingitis the tenderness is usually in

both iliac fossa and in the suprapubic region. In case 1 there was tenderness in R.L.Q. which suggests appendicitis rather than salpingitis because salpingitis is usually bilateral so the tenderness should be on both sides. In case 2 tenderness over umbilical region which may be found in appendicitis or salpingitis. In case 3 tenderness over R.L.Q. it suggests appendicitis. In case 4 tenderness over L.L.Q. this condition is usually found in salpingitis and rarely in appendicitis.

(3) Rigidity -- In salpingitis rigidity is less and bilateral. In case 1 & 3 rigidity over R.L.Q. which suggests appendicitis. because salpingitis is rarely affected on one side only.

(4) Slight leucocytosis and moderately elevated temperature may be found in appendicitis and salpingitis.

(5) Pelvic examination.- In case 1 found the cervix was eroded, bloody discharge in vagina, tenderness over both salpinx which were fixed and hard than normal. Her husband had V.E. and gonorrhea, from this finding Salpingitis is quite sure. In case 2 found the uterus was enlarged, bloody discharge in vagina. Patient had delivery one month ago. From this finding infection of the uterus and salpingitis may be suspected. In case 3 found thickening of rt salpinx her husband had venereal exposure so salpingitis is likely to occur. In case 4 pelvic exam showed negative result which may help and rule out salpingitis.

(8) Rupture of Graafian follicle and corpus luteum. - 8- case report

case	1	2	3	4
age	16	18	20	16
occupation	nurse	nurse	house wife	student
marital state	S	S	M	S
Duration of				
abd pain	18hrs	6hrs	22hrs	4hrs
abd pain				
nature	severe & continuous	1st colic & then dull	1st mild later severe	severe & continuous.

	Location From umbilicus to R.L.Q.	From middle abd to R.L.Q.	From lower abd to right side	R.L.Q.
nausea	yes	yes	yes	yes
vomiting	No	No	Yes	No
chill&fever	No	No	No	No
Menst cycle	3odays regular	DITTO	DITTO	DITTO
LEMP.	2ldays ago	17daysago	25days ago	27days ago
abd tender	MildRLQ.	Moderate lower abdomen	mild L.L.Q. severe R.L.Q.	DITTO
abd rigidity	Slight R.L.Q.	Slight lower abdomen	Slight R.L.Q.	No
shifting dullness	No	No	No	No
rectal exam.	Tender rt	tender rt post	neg	tender rt side
Temperature	97.7 F.	99 F.	100 F.	99 F.
pulse	104	96	142	82
resp rate	20	19	23	21
B.P.	126/72	120/90	112/75	104/70
Whitw count	7850	10450	11750	12450
Preoperative diagnosis	Acute appen dicitis	1. acute appendi citis 2. rupture of graafian follicle	1. appendicitis 2. DITTO	Acute appen di citis
posroperative diagnosis	Rupture of follicular cyst (rt)	rupture of cor pus leteum cyst (left)	Rupture of corpus lateum cyst (left)	as case I

Rupture of graafian follicle or corpus lateum cyst may cause very similar symptoms and signs of appendicitis and the preoperative differential diagnosis is very difficult. The following points maybe helpful in diagnosis.

(1) Time -- Ovulation takes place about 14 days before the next menstrual period at the time or a few days later the physiological rupture of graafi an follicle will occur pathological rupture of graafian follicle may occur in

time between the periods. If the pain occurs nearly 14 days to the next period it is more likely due to ruptured of graafian follicle. If it occurs near the next period it is more likely due to rupture of corpus luteum.

(2) Sudden onset of abd pain but the general reaction as temperature pulse rate and white count is not in proportion with the pain. It is suggestive mild perforation? If ruptured with profuse bleeding then general abd tenderness and signs of internal hemorrhage is present.

(3) In these four cases the natures and location of the pain are suggest to appendicitis but in case of appendicitis patient usually has slight fever or chilliness in rupture of graafian follicle patient has no fever or chill nausea frequently occurs in these patients but rarely (ur) is bounding, they may have vaginal bleeding. If is severe bleeding then fainting, increased pulse rate and decreased blood pressure and general abd tenderness may take place.

DISCUSSION.

Appendicitis is the most common acute abdominal emergencies, since so frequent is the condition one must have a clear mind to this subject and attempt at a certain diagnosis. The diagnosis of acute appendicitis may be as usually it is easy but may be sometimes very difficult because many conditions may give the very similar symptoms and signs of appendicitis, so the differential diagnosis must be considered. Acute appendicitis needs early diagnosis and early operation. If not severe complications may occur and increase of mortality. Some conditions which are confused with acute appendicitis are found in these 225 cases diagnostic difficult points of these cases has been discussed. Some other conditions which are not encountered in may be confused with acute appendicitis. They are discussed as the following;

(1) Influenza.- Abd pain may happen other symptoms as headache and pain in the eye balls may be present. vomiting may precede the abd pain. There may

be pain and tenderness in lower part of abd on right side accompanied by fever rise in the temperature precedes the pain and the fever is too high to be in proportion with the abdominal symptoms.

(2) Diaphragmatic pleurisy early basal pneumonia .- pain tenderness and muscular rigidity may all be noted in the right iliac region in thoracic disease . Sometimes firm continued pressure exerted deeply into the right iliac fossa without causing an increase of the pain will enable one to differentiate it from appendicitis. In case of appendicitis pressure over the left iliac fossa carried out by the fingers pressed deeply in and directed toward right side will sometimes cause pain in the appendicular region, a sign which is absent in pleurisy or pneumonia . In thoracic disease the respiration rate is usually increased and the pulse respiration ratio diminished careful exam of the chest is the method of discrimination.

(3) Typhoid fever.-- In case of typhoid fever , the abd pain and tenderness is sometimes localized in the right iliac fossa . However, there are general symptoms which would permit the differential diagnosis to be made , headache general malaise , enlargement of spleen, presence of roseola and gradual fall in temperature . The absence of leucocytosis would help to exclude appendicitis.

(4) Biliary attack.-- Any child previously in good health , who is suddenly taken with abd pain and loss of appetite has nausea and vomiting and deep tenderness in right iliac fossa is most probably suffering from appendicitis not biliary attack.

(5) Intestinal colic.-- We must be first excluded appendicular colic, If a few hours after the onset of the pain there still be no tenderness elicited on pressing over the right iliac fossa or right pelvic brim and none on the right side of the pelvis by rectal exam. It may fairly be excluded . In a simple colic pressure on the painful part often relieves the pain.

(6) Biliary colic.-- There is sudden excruciating grinding pain in the gall bladder region and right shoulder , The vomiting is not severe , but re-

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retching and belching occur. There is no rise of temperature and pulse rate. There is tenderness but no mass is felt. The attack passes off a few hours and it may be followed by jaundice. The pain is often relieved by pressure.

(7) Acute right sided pyelitis.-- onset of this disease is usually with a rigor. Temp may rise to very high 103 F or more. There is pain on micturation and increased frequency of urination. There is no local muscular rigidity. abd muscles are often weak. urine exam often revealed pus or bacteria and an inflamed appendix lying in front of the renal pelvis may actually cause an acute pyelitis.

(8) Acute right sided hydronephrosis.-- It may be misdiagnosed as appendicitis with abscess formation. It forms a rounded, tense tender swelling which occupies the lateral aspect of the abd and can be felt well back in the loin. The swelling is movable and rounded in shape. There may be a depression that is the hilum on the medial side. The pain sometimes is renal colic type and there are urinary symptoms that is scanty urine pain during or frequency of micturation etc. Rigidity of the abd wall over the swelling is usually absent.

(9) Torsion of omentum.-- Torsion and strangulation of a portion of omentum may simulate appendicitis. The part affected is usually to the right of the midline and pain and tenderness will be noted to the right of the umbilicus vomiting is less common. but differential diagnosis may be impossible.

(10) Perinephric abscess.-- a suppurating retrocecal appendix may form an abscess in the neighbourhood of the kidney and may be difficult to diagnosis from a perinephric abscess of metastatic origin. In (pp) perinephric abscess the onset is insidious, In appendicitis the onset is usually acute, In both cases there will be pain on pressing forward in the erector costal angle below the last rib. Some patients with an inflamed retrocecal appendix present atypical symptoms have no initial epigastric pain do not vomit and no rigidity over the inflamed area. These cases however, are much more rapid in development than the usual metastatic perinephric abscess.

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(11) Carcinoma of the caecum or ascending colon-- Which forms a tumor and which has become adherent to the parietes or which has eroded the gut and caused a perityphalitic abscess, may simulate an abscess or appendicular origin. The age of the patient usually over fifty. Previous attacks suggestive of obstruction, noticeable loss of weight and anemia usually help to distinguish but cases do occur in which differential diagnosis is almost impossible before operation. Ilio-cecal tuberculosis may cause symptoms similar to those of carcinoma and indeed may not be distinguishable prior to operation.

(12) Tuberculosis ilio-cecal glands.-- Which are easily mistaken for an inflamed appendix. They occur chiefly in children and cause slight tenderness and may be a lump in the right iliac fossa. In the glands are fleshy and tending to undergo caseation they may cause inflammation of the contiguous mesentery and peritoneum and the local signs will be increased by the presence of greater local tenderness and possibly muscular rigidity. Nausea or vomiting may occur. Epigastric pain is not so likely to be in evidence and the typical symptom sequence of acute appendicitis will not be obtained. Tuberculosis mesenteric glands may be accompanied by an irregular fever, an X-ray photo may show some calcification in the glands.

(13) An abscess developing in the abdominal wall in the right iliac region may be difficult to diagnose from appendicitis, but the history absence of vomiting and superficial localisation without any deep signs, should be differentiated points.

(14) obstruction of the large intestine usually due to carcinoma or volvulus of the sigmoid or rectum may confuse pelvic appendicitis.

The onset of both these conditions is usually preceded by a time of sub-acute obstruction with attacks of abdominal pain and distension and in both cases distension is (an early feature) early feature of the acute attack. In pelvic appendicitis the symptom sequence is fairly constant and distension is not an early symptom. In both cases rectal exam. will reveal pelvic

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tenderness but in obstruction there may be greater ballooning of the upper part of the rectum whilst in appendicitis there is often a tender lump on the right side of the pelvis and the thigh rotation test maybe positive. Fever is usually absent in obstruction and present in appendicitis.

(15) obstruction of the rectum.-- It accompanied by tenderness in the hypogastrum is frequently due to adhesions caused by former attacks of appendicitis. The adhesions usually bind the end of the ileum down to the lateral wall of the pelvis or the bottom of the pelvic pouch of peritoneum. The previous history of appendicitis may be deceptive. In obstruction there is greater acuteness of pain spasmodic in nature. Observing the frequency and character of the vomit which in obstruction gradually becomes yellowish and finally feculent. A change which never happens in appendicitis until extensive peritonitis has developed. In intestinal obstruction the pain is seldom localized in the right iliac fossa as in appendicitis, but after distension has supervened diagnosis is made much more difficult. In small bowel obstruction the temperature is usually subnormal at onset and does not at any period become febrile as is usual in appendicitis. Frequency of urination may occur in pelvic appendicitis owing to irritation of the bladder.

(16) Diverticulitis .- Diverticulitis of the pelvic colon may cause either obstruction or inflammatory symptoms. When causing it closely resembles carcinoma but when local inflammation and abscess present symptoms and signs are very similar to those of pelvic appendicitis and there is no certain way of distinguishing before operation since in these cases a barium enema is inadvisable. Diverticulitis is chiefly met with in older persons and there may be a history of previous bowel derangement which may be referable to the colon, that is attacks of diarrhoea and constipation or passage of slime and blood. The initial pain is more likely to be hypogastric in pelvic pericolicitis and epigastric in appendicitis.

(17) Ectopic gestation.-- There may be menstrual irregularity of the history of a fainting attack general anemia and a displaced uterus maybe found

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Whilst the symptom sequence of appendicitis is not usually seen. Even in unruptured cases the enlarged tube may be felt as an abnormal mobile and tenderness with swelling to one side of the uterus.

(18) ovarian cyst or hydrosalpinx with a twisted pedicle.-- with the twisted pedicle of the viscus the pain and vomiting come on simultaneously so that the proper appendix symptom sequence is wanting. The vomiting or retching is usually more frequent and more persistent than in appendicitis.

In case of ovarian cyst previously a tumour is known and a definite tender swelling may be made out from the time of onset of the symptoms. superficial hyperesthesia to pin-stroke in the right iliac region is commonly found with appendicitis but is less frequently detected with an ovarian cyst with a twisted fibroid the symptoms are not usually so acute. previous known there is a fibroid.

(19) Retension of the right testis in the abdomen should not be forgotten especially in patient at puberty who complains of acute pain in the right iliac fossa suggesting appendicitis. The testis situated at the upper end of the inguinal canal may cause subacute (inguinal) pain similar to that of mild appendicitis. It is important to examine the scrotum to see whether both testicles are present or no. There is no pyrexia.

(20) Dysentery and ulcerative colitis. The abdominal pains are usually general or at least it refers to different parts of the colon at different times. The right iliac fossa. However occasionally pain in the right iliac fossa may be more pronounced than other parts of the colon then the diagnosis will be generally based on the history especially the history of recurrent intractable diarrhoea with the passage of blood and mucus in case of ulcerative colitis.

(21) Gastric crisis of tabes dorsalis causes pain and persistent vomiting but the pulse is unaffected and there is a characteristic history of regular recurrence of the similar attacks. The signs of tabes are present and can not be missed if they are looked for.

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(22) Pneumococcal peritonitis.--- pelvic appendicitis associated with diarrhea may need to be distinguished from pneumococcus peritonitis. It is a rare disease more occur per in female children as an infection gaining entrance to the abd cavity either through the fallopian tubes or less frequently through the blood stream. There may be marked toxemia dull mental state and less definite signs of acute peritonitis. Tenderness and rigidity are diffuse rather than localized to the right side.

CONCLUSION

1. Acute appendicitis is a common disease over 50% of the abd emergencies are due to acute appendicitis.
2. Appendicitis is a disease of the young adult. 74.3% of patients are from ten to thirty years of age.
3. Male is more affected than female the ratio is 2.53:1
4. Pain is the main symptom others are not constant.
5. Immediately prior to the onset of pain there may be general malaise indigestion, vague abd discomfort or disturbance of bowel movements.
6. The order of occurrence of the symptoms is important in diagnosis of acute appendicitis. That is pain usually epigastric or umbilical, nausea or vomit in local iliac tenderness, fever, leucocytosis and local rigidity.
7. In the early stage of acute appendicitis patients may have the gas stoppage sensation, but it may be so mild in some patients and be overlooked. It was not obtained in this 200 cases of acute appendicitis, because nearly all the patients came to hospital rather late and the symptoms might be overlooked.
8. Acute appendicitis is also relatively common in children onset is sudden pain followed by vomiting. Temperature and pulse rise higher than in adults symptoms and signs are similar to adults and varying with the positions of the appendix. In children acute appendicitis tends to be very severe and perforation and general peritonitis are frequent rapid sequels. so the mortality is higher than in adults.

9. In young sixty acute appendicitis is still a common acute condition symptoms are like those in young adults. Fever is usually absent (spasm and local tenderness and spasm is less definite. Acute appendicitis in elderly patients usually takes a severe form suppuration and peritonitis are common and abscesses are often seen.

10. Among these 200 cases ²⁰⁰ All of them were diagnosed correctly clinically. The other 28 cases had been confused with other conditions. Tuberculosis of the cecum, acute gastritis, acute gastro-enteritis, acute colitis, acute cholecystitis, perforated peptic ulcer, renal colic, acute pancreatitis, salpingitis, and rupture of graafian follicle and corpus luteum were confused with acute appendicitis.

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