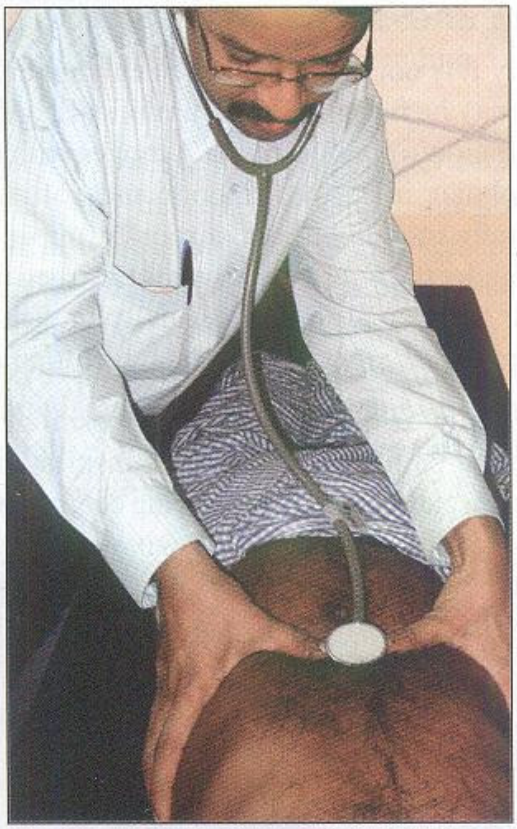
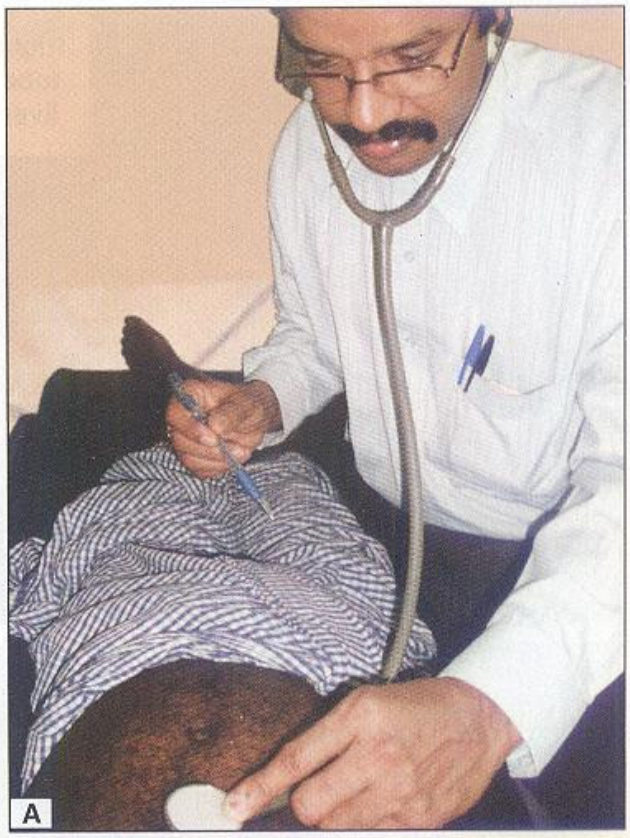
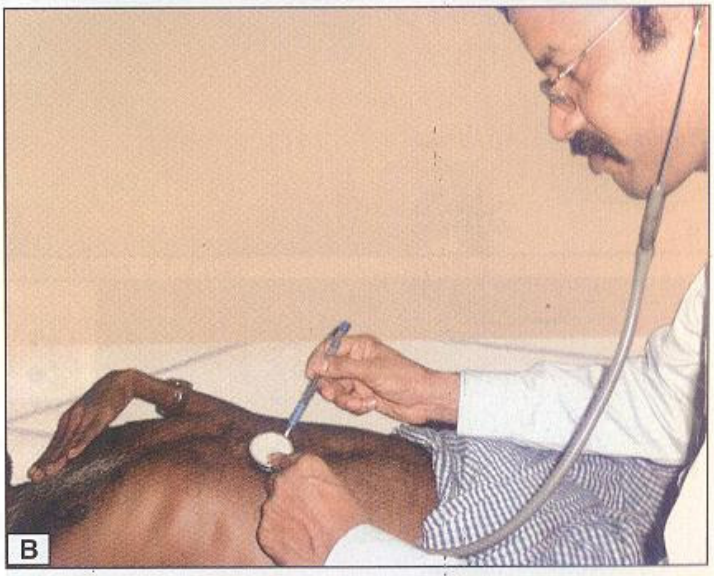


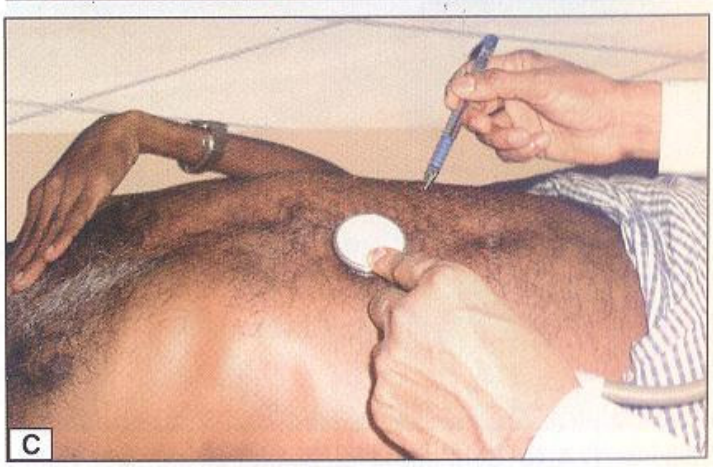
Fig. 21.18: Succussion splash

is more towards surface whereas lesser curvature is in deeper plane. Normally greater curvature is above the level of umbilicus on surface marking. In gastric outlet obstruction it shifts below the level of umbilicus **(Figs 21.19A to C)**.

Stomach mass is commonly due to carcinoma stomach but occasionally it can be due to gastric lymphoma or leiomyoma of stomach. Mass of carcinoma stomach is in the epigastrium or upper part of umbilical region—which moves with respiration; all borders are well made out; mobile in all directions; nodular and hard; upper border is well made out; with impaired resonant on percussion. If mass is close to the fundus of stomach then upper border may not be clearly felt. Often patient should be examined in lateral position or after making the patient to walk for few minutes so as to allow the mass to come down to make it easily palpable. When mass arises from the pylorus it will be just above right of the umbilicus presenting with features of gastric outlet obstruction. Mass from the body of the stomach is horizontally placed extending towards the left hypochondrium, commonly without features of obstruction. Often a composite mass of carcinoma, lymph nodes, omentum and part of the liver may be







Figs 21.19A to C: Auscultopercussion test.

palpable and attains a large size also. Carcinoma stomach when fixed may not move with respiration and may find it difficult to differentiate from pancreatic mass even though carcinoma pancreas is rarely palpable. In case of palpable gallbladder and progressive severe jaundice one should suspect carcinoma pancreas. Often carcinoma stomach can also cause jaundice when there are secondaries in liver extensively in both lobes. In such occasion along with stomach mass nodular secondaries in liver with ascites is also evident. Patient with mass near the oesophago-gastric junction presents with dysphagia. *Linitis plastica* (diffuse type of carcinoma stomach in submucosal plane) usually presents as loss of appetite and decreased weight with reduced stomach capacity. It usually does not present as mass abdomen. When mass is palpably present, it is a composite mass of nodes, omentum and stomach. It carries poor prognosis. Total gastrectomy is the treatment. Clinically palpable carcinoma stomach (as mass) is considered as advanced carcinoma stomach as involvement of serosa means 'advanced' as per the definition. Without serosal breach it is difficult to palpate clinically. But it could be surgically resectable **(Figs 21.20 and 21.21A to E)**.

In infants pyloric mass of congenital pyloric stenosis is palpated from *left side* of the patient.

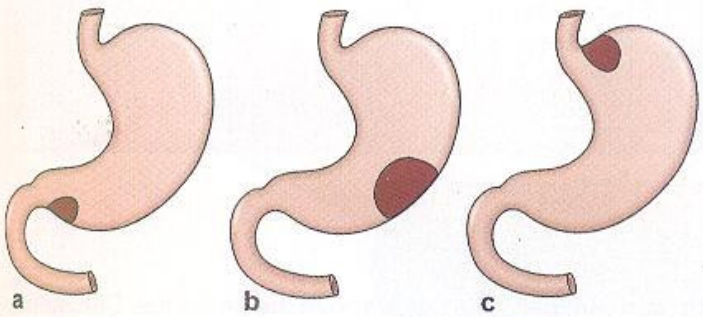


Fig. 21.20: Different locations of carcinoma stomach. (a) Pylorus, (b) Body of stomach, (c) Near OG junction.

Pancreatic mass

It is palpable in the epigastrium. It is deep, nonmobile, not moving with respiration, with bowel in front. It is felt on deep palpation. Pseudocyst mass has rounded lower margin with transmitted pulsation. Pancreatic masses are usually resonant.

Palpation of Spleen

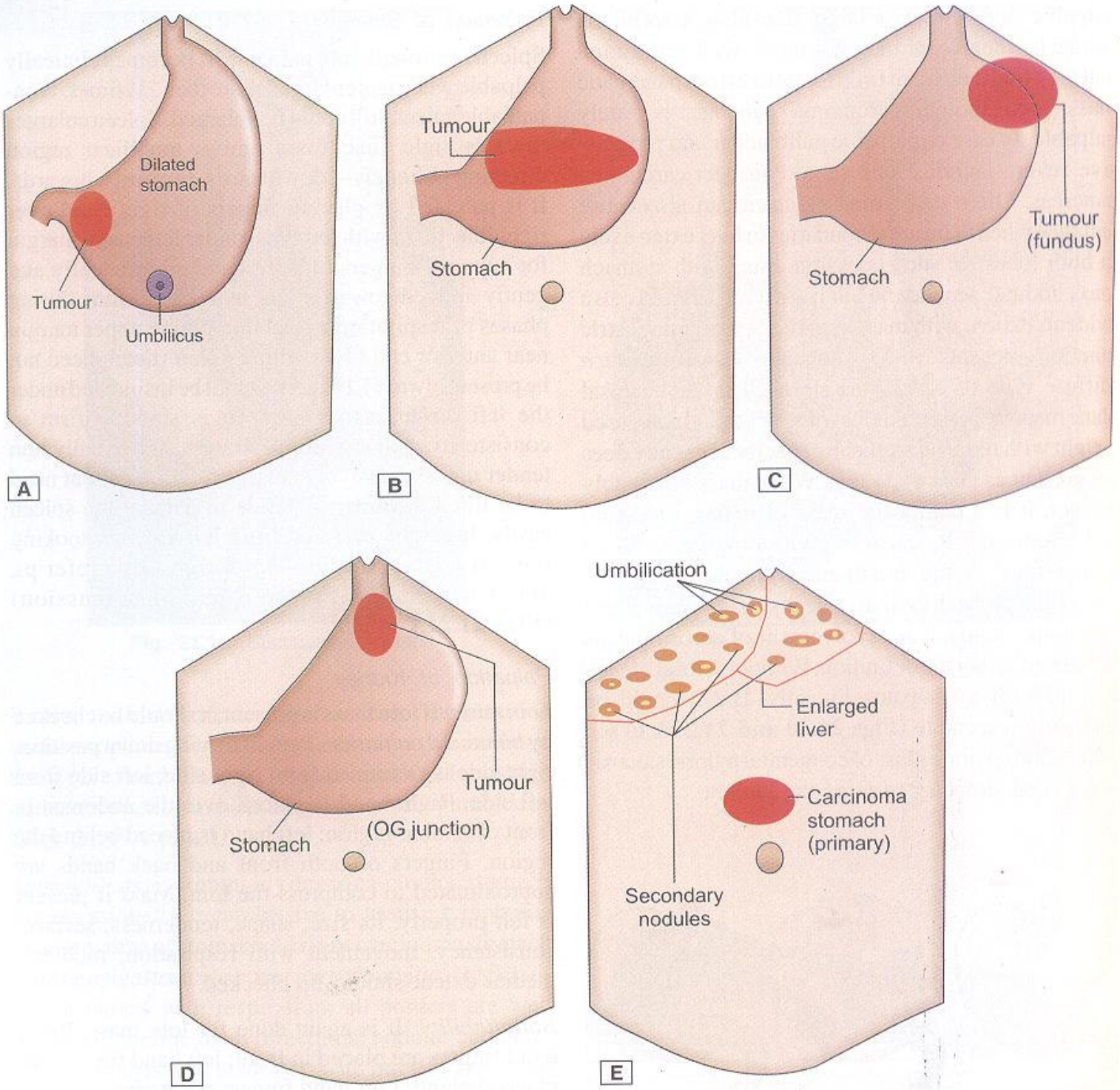
Spleen is normally not palpable. It becomes clinically palpable when it is enlarged more than 2½ times. Non-palpable spleen still could be enlarged. Spleen enlarges towards right iliac fossa across umbilical region directing obliquely—downwards, forwards, inwards. It is palpated by placing fingers of right hand over right iliac fossa with left hand under left costal margin for support. Fingers of right hand are gradually and gently moved towards left hypochondrium during phases of respiration to feel the splenic upper margin near anterior end often with *a notch* (notch need not be present always). Fingers cannot be insinuated under the left costal margin. Spleen is smooth, firm in consistency, moves with respiration, and usually non tender unless massively enlarged. Often patient need to be tilted towards right side to palpate the spleen easily. It can be palpated from left side by hooking the left costal margin—*hook sign* (also refer pg 466, Chapter 20). (Spleen is dull on percussion) **(Figs 21.22A to E)**.

Palpation of Kidney

Loin mass: If loin mass is present, it should be checked by *bimanual palpation*. Patient in lying down position, right side is examined from right side; left side from left side. Right hand is placed over the abdomen in front of lumbar region; left hand is placed behind the region. Fingers of both front and back hands are approximated to compress the loin. Mass if present is felt properly. Its size, shape, tenderness, surface, consistency, movement with respiration, mobility, medial extent should be checked.

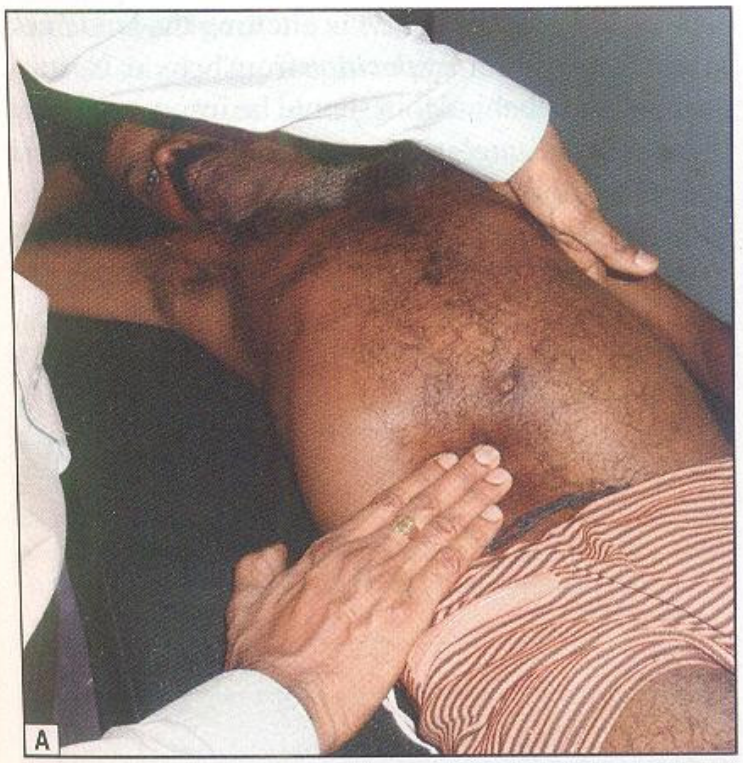
Ballottability: It is again done for loin mass. Right hand fingers are placed in front; left hand fingers are placed behind. Left hand fingers are pushed forward from behind so that loin mass is pushed forward. Examiner can appreciate that mass is moving forward and touching his fingers in front. Ballottability is due to soft perinephric pad of fat and pedicle on the medial side on which kidney moves/rotates. Kidney mass is bimanually palpable and ballottable. If there is perinephric inflammation causing adhesions or renal cell carcinoma infiltrating the perinephric tissues kidney will be only bimanually palpable not ballottable.

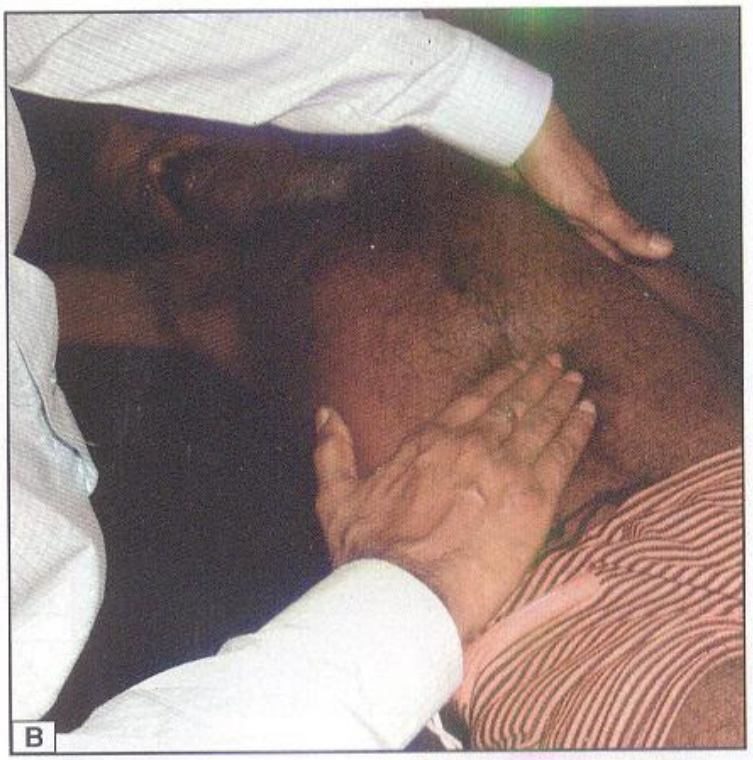
When kidney is enlarged, it will be *bimanually palpable, ballottable* (left hand from behind is pushed anteriorly and kidney can be felt moving forward and

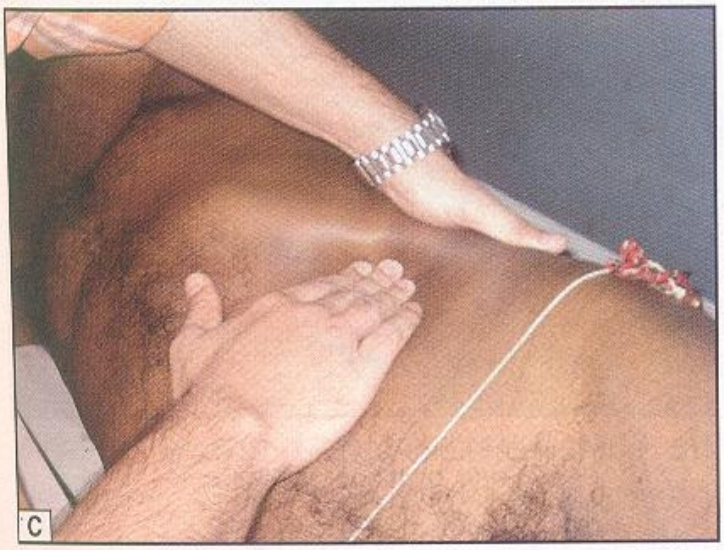


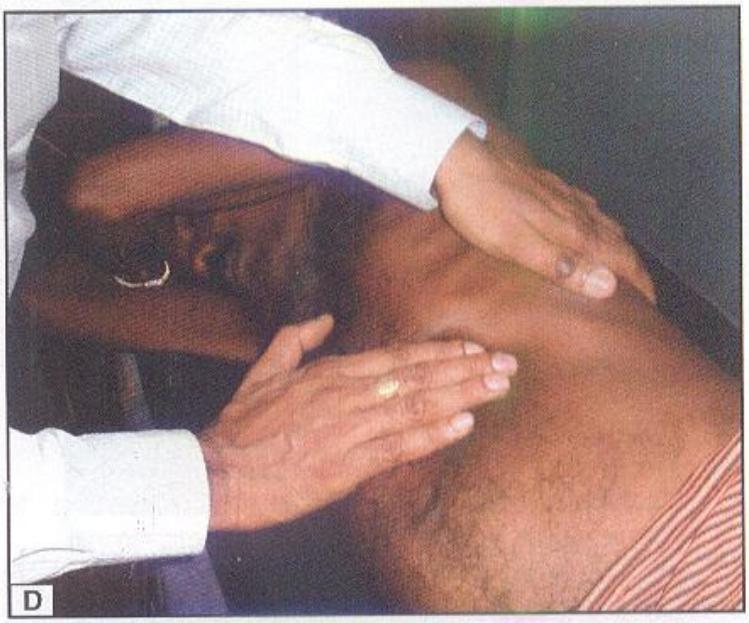
Figs 21.21A to E: Carcinoma pylorus causes gastric outlet obstruction with palpable mass above the umbilicus. Carcinoma body of stomach mainly presents as loss of appetite and decreased weight with horizontally placed stomach mass. Carcinoma from fundus of the stomach presents as mass abdomen with loss of appetite and weight. Carcinoma OG junction presents as dysphagia. Carcinoma stomach is one of the common causes of secondaries in liver.

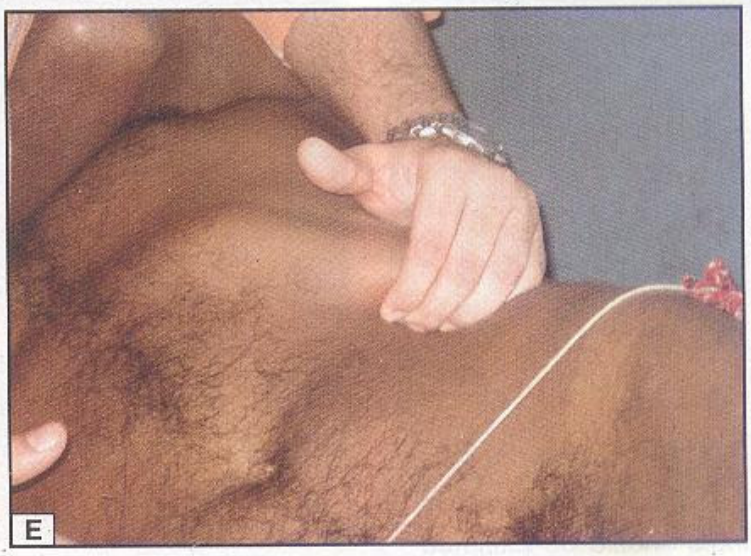
touching/ pushing the right hand in front), moves with respiration (as it is related to diaphragm), vertically placed with resonant colonic band in front because of medial and anterior push of the colon by enlarged kidney. It is smooth and soft in hydronephrosis; hard and nodular in carcinoma kidney; firm, nodular and bilateral in polycystic kidney disease. Kidney may not move or may not be ballottable if it is adherent due to infection or advanced carcinoma. Hand can be insinuated between upper part of the mass and right costal margin. It usually does not cross the midline (to opposite side).











Figs 21.22A to E: Method of palpating spleen and also eliciting hook sign.