

the pleura near the apex of the lung, or between the outer surface of the pleural sac and the artery (Friedreich).

According to many English authors (Fuller, Palmer, Richardson, and others) the subclavian murmur is a phenomenon of not unfrequent occurrence; possibly, however, they have reckoned as belonging to this class some of the above-described murmurs which are not properly speaking to be regarded as subclavian, that is, those which are not limited strictly to the subclavian artery of *one* side. The true subclavian murmur has been found by Weil only six times in 600 cases, and I, though for several years I have watched specially for this sign, have recognised it in only three cases (of phthisis); it was always capable of being greatly intensified by pressure with the stethoscope.—It is now known also not to be invariably connected with disease of the apices of the lungs, being occasionally heard when the whole respiratory apparatus is perfectly sound.

EXAMINATION OF THE ABDOMINAL ORGANS.

INSPECTION OF THE ABDOMEN.

DISEASES of the abdominal organs are generally recognisable by simple inspection only when they occasion some evident change in the volume and shape of the abdominal cavity. As this alteration in size takes place in but a few of the many abdominal diseases, and in these only under special conditions, inspection is divested of much of its importance as a method of investigation when applied to the examination of the parts within the abdomen. To ensure accuracy also the signs which it elicits should, as a rule, be checked by palpation.

The most common change observed in the size of the abdominal cavity is *enlargement*.

When this is slight the determination of its actual existence is not always an easy matter. The normal dimensions of the abdomen vary within very wide limits. In those whose customary diet is more of a vegetable than an animal nature, in those who habitually eat to excess, in drinkers, and sometimes also in individuals who are in all respects strictly temperate, distension of the bowel and undue development of fat may, as our daily experience teaches, combine to produce a degree of prominence such as is seen in other cases only as the result of considerable ascites or decided increase in the bulk of some of the abdominal organs. Nevertheless, the presence of *pathological* increase even of a less marked character is also usually indicated by other easily-appreciated signs. Thus, the morbid processes which give rise to swelling of the abdomen modify also the whole aspect of the patient; they lead to more or less emaciation and to changes in the colour of the skin (often to pallor of the surface, or to a cyanotic or yellow, jaundiced hue, according to the precise nature of the original disorder). In such cases the contrast between the bulky abdomen and the lean chest and body generally, becomes very striking.—

Not unfrequently pathological enlargement of the abdomen is accompanied by other anomalies which owe their existence to the same causes; of these may be mentioned distension of the superficial abdominal veins, œdema of the inferior extremities, &c.

Bulging of the abdomen may be *partial* or *general*. *Partial* enlargements are most commonly due to increase in size of certain of the subjacent organs,—the liver, spleen, uterus, ovaries. Undue prominence on the *right side* is usually connected with the *liver*, the exact form and outline of which can often be easily made out, when the integumentary coverings are thin and flaccid, and more especially when the parts are viewed from the side, in profile. But hepatic tumour may assume such enormous proportions, as in many cases of carcinoma, hydatid cyst, and amyloid degeneration, that the projection which it makes on the surface is no longer merely local or partial but may involve the greater part of the abdominal wall.

Very marked hypertrophy of the *spleen* (from leukæmia, amyloid degeneration, intermittent fever, &c.) elevates the tissues in the *left side*, and on lateral inspection the anterior inner border of the organ may frequently be traced; occasionally the splenic enlargement dependent on leukæmia is of such a size as to occupy almost the whole of the abdominal cavity, and to raise its walls nearly equally at all points.

Dilatation of the stomach gives rise to a uniform, somewhat oval-shaped swelling in the epigastric region, passing a little towards the left, under the ribs and so beyond the superficial boundary of the abdomen; if the dilatation be excessive, as in a case which I witnessed, the tumefaction may be general, the whole abdomen being rendered tensely prominent. If the distension, however, be not caused by air, but by some other medium, there may be no appearance of unusual projection of the parts mentioned. Occasionally in a stomach so affected peristaltic movements, spontaneous or of reflex character (excited by rubbing the epigastrium briskly with the hand), are seen travelling from left to right, towards the pylorus; by following these movements closely a truer conception of the dimensions and shape of the organ may generally be formed than is possible even by palpation and percussion,—in some cases indeed its outline becomes in this way so distinctly visible that

it may almost be mapped out on the skin.—Cancer of the stomach, which affects most frequently the pyloric end, manifests itself externally, when the tumour is moderately large, as a circumscribed elevation in the epigastrium; it must be borne in mind that a similar protrusion is caused by cancer of the left lobe of the liver.

Diseases of the *intestine* yield very few diagnostic data to inspection; large fecal accumulation in the colon, when it produces any very considerable degree of distension of the bowel, forms an elongated and often movable tumour in the right or left iliac region.

In persons of spare habit it is often possible, by simple friction of the abdominal surface, to excite or intensify the peristaltic movements of the intestine and so to bring them clearly into view. When the intestinal tube is narrowed by a stricture peristaltic movements are seen only in that portion of it which is above the contracted part, if it be tensely swollen and apparently loaded by a stagnant accumulation of intestinal contents, and not in the part beyond the obstruction.

Tumours of the omentum (carcinomatous, hydatid, &c.) sometimes attain to enormous dimensions, but are seldom so limited as to involve that structure alone; they are generally complicated by the presence of similar morbid changes in the liver and other solid organs, or they contract adhesions with these organs, the result of which is that the projection of the abdomen is not confined to the anatomical area representing the omentum.

Tumours of the uterus, physiological (*pregnancy*) and pathological (*fibromyoma*, &c.), so long as they are not of unusual size, keep generally to the middle line of the abdomen.

Tumours of the right or left *ovary* first make their appearance low down in the abdomen, in the region corresponding to the anatomical site of the organs, to one or other side of the median line. Subsequently, when they become of considerable magnitude, they may present a swelling, moderately uniform both in outline and surface, of the whole lower and upper segments of the abdomen, so that by mere inspection it is often impossible, and even with the aid of palpation it remains difficult, to determine whether they have sprung originally from the right or left ovary. As a rule the ovarian tumour is movable; when the patient therefore turns to one side it seeks the more dependent parts of

the abdominal cavity, and there renders the integument still more tense than before.

Among diseases of the *kidneys*, *cancer* and *hydronephrosis* form at first smooth or irregular swellings in the lumbar region, which afterwards, on developing still further, extend to the front of the abdomen in the right or left hypochondrium, or even to parts more remote. A *dislocated* (movable) kidney is occasionally, though rarely, appreciable by inspection, when it is seen as a flattened, roundish elevation of the tissues.—The *bladder*, when distended with urine, projects in the median line of the abdomen, making there an oval-shaped tumour reaching upwards to a variable point according to the quantity of urine retained.

In the foregoing paragraphs have been discussed only the more common of the diseases of the abdominal organs which give rise to *partial*, localised swellings recognisable by inspection. A fuller consideration of all those abdominal affections which at times present similar signs would lead us into the domain of descriptive, systematic medicine, which is beyond the scope of this work. Suffice it therefore to direct attention generally to the large, encysted peritoneal exudations, to the various new formations in the different organs and tissues of the abdomen, to the cysts, extravasations of blood, abscesses, herniæ, &c., which sometimes at one part, at other times at another, reveal their presence externally as visible tumours, and whose true nature and connection with the several organs can be satisfactorily demonstrated only by means of palpation, percussion, and above all by the closest scrutiny of the general health and of the history of the origin and course of the disease,—but which, even after prolonged and careful observation, frequently remain wrapped in an obscurity which the most skilful examiner fails to penetrate.

Uniform, general intumescence of the abdomen, apart from the somewhat rare cases of great enlargement of certain of the abdominal organs (mentioned above), is produced most commonly by the presence of some *abnormal material in the peritoneal sac* (usually fluid, more seldom gas) or by *distension of the bowel by gas* (meteorism).

When the peritoneum contains fluid, a condition which is named *ascites*, the smooth, uniform tumefaction of the abdomen

undergoes some striking modifications on changing the position of the patient: when he lies on one side the prominence lessens or disappears in the uppermost flank but becomes more marked in the parts which are undermost; in the upright position the bulging is most obvious in the lower half of the abdomen, and when decubitus is dorsal the swelling projects less forward and gains in breadth. All these alterations depend on the movements of the fluid, which invariably seeks the lowest level in the abdominal cavity.—Only when the quantity of fluid is excessive, when accordingly the abdominal parietes are at all points in a state of extreme tension, is there no variation in shape noticeable on changing the patient's attitude.—In cases of intestinal meteorism, and when the peritoneal sac is filled with gas, the uniform enlargement of the abdomen is unaffected by the posture of the patient; this therefore is a point by which these conditions may be distinguished from ascites.

In cases of very abundant peritoneal effusion the skin over the abdomen exhibits a shining, anæmic, whitish blue coloration, and at those parts where the stretching of the integuments is greatest are seen white lines, such as those which occur in pregnancy, due to the separation of the tissue elements of the corium.

In the umbilical region, and radiating from it both upwards and downwards, blue-coloured venous plexuses are often observed, which belong to the widely-dilated epigastric and mammary veins. The widening of these vessels is always a sign of engorgement of the portal vein and of the whole portal system, and an indication that on account of this venous stasis a portion of the blood which should pass through the liver finds its way by collateral branches into the superficial abdominal veins. This sign is associated chiefly with cirrhosis of the liver, being caused by the compression of the ramifications of the portal vein which takes place in that affection. Should there also be any obstacle to the return of the blood through the vena cava inferior, as from obliteration, compression by tumours, all the superficial abdominal veins, and still more those of the lower extremities, are increased in calibre; œdema is then also generally present.

Diminution in volume (depression) of the abdomen usually affects equally the whole of the abdominal cavity; it is not

peculiar to any one disease of the organs, but is ordinarily to be regarded merely as one of the concomitant signs of the general emaciation which attends the various consumptive disorders. It is also observed when the bowel is almost or entirely empty, as from stricture of the œsophagus, cancer of the pylorus, stenosis of the upper part of the intestinal canal. Emaciation from these causes is commonly accompanied, particularly in children, by other phenomena which are equally characteristic of a lowered state of nutrition of the skin, such as loss of elasticity and free desquamation (pityriasis).

In the basilar meningitis of children a boat-shaped depression of the surface of the abdomen is generally seen, caused by the contraction of the muscular coat of the intestines, from irritation of the nervous centres which govern the movements of the bowel.

Not unfrequently the examiner may obtain important information by noticing the movements which are communicated to the contents of the abdomen by the act of respiration and the action of the heart. Thus, large tumours of the liver and spleen sink into the abdominal cavity in inspiration and rise in expiration; in the case of the liver, indeed, the whole of its sharp lower border may be distinctly discernible during respiration. The movement given to the diaphragm by the action of the heart is frequently manifest to the eye when there is a large free effusion in the peritoneal sac, the impulse passing onward through the fluid, and making itself visible as a superficial wave which appears and disappears with great rapidity.

PALPATION OF THE ABDOMEN.

THIS is a method of examination of the first importance in the investigation of abdominal diseases. It enables us to determine the size, form, consistence, and situation of the various organs, and discloses the existence of tenderness to superficial or deep pressure, the presence of any abnormal body or substance in the abdominal cavity, &c. The information so gained, it is true, is only of a general character, it reveals simply the *physical condition* of the parts and not the exact nature of the diseases by which they may be affected; but it constitutes the groundwork on which the further diagnosis rests, a more complete or particular understanding of the case in hand being possible only on taking into consideration the other symptoms presented by the patient.

In another class of cases, especially of abdominal tumour, diagnosis is rendered exceedingly difficult or becomes at best a matter of some uncertainty, when the organ from which the tumour springs undergoes alteration in form or anatomical situation, or when the starting point of the growth can no longer be positively made out. In many other diseases also, which give rise merely to physiological, functional disturbance, but to no deformity, displacement, or change in the dimensions of the organs, palpation yields no indication of any value from a diagnostic point of view.

Palpation is most conveniently practised when the patient is laid on his back or, occasionally, on one or other side; if the tension of the abdominal walls prove a serious obstacle to its proper performance the thighs should be flexed on the body, though even this expedient is not always successful in accomplishing the object intended. The great difficulty to be overcome, apart from that presented by the varying thickness of the subcutaneous layer of fat, is the tension of the abdominal muscles, particularly of the recti. The examiner should be