Gynaecology in General Practice

Abdominal Swelling

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The presence of an abdominal swelling is one of the commonest physical signs in medicine and the differential diagnosis often presents a major challenge to the clinician. So many organs may be concerned and so diverse and sometimes bizarre are the possible lesions that imagination and diagnostic resources are taxed to the limit and even the most sophisticated equipment sometimes fails to expose the true nature of the condition, which may ultimately be revealed only at the final analysis of laparotomy or necropsy. Even so, in women 90% of abdominal swellings are either obstetrical or gynaecological in nature.

Clinical Observations

The importance of simple clinical observation among the available methods of diagnosis cannot be overemphasized. With reasonable care all but the most difficult cases can be successfully diagnosed in the consulting room or at the outpatient clinic.

HISTORY

The history may often be helpful in giving a lead to the nature of the swelling. Urinary frequency associated with dribbling and incontinence may indicate chronic retention of urine. Menorrhagia could be compatible with uterine fibroids as a cause of abdominal enlargement; amenorrhoea would suggest pregnancy; while vomiting, indigestion, diarrhoea, or constipation would point to the alimentary tract as the source of the swelling.

EXAMINATION

Examination of the abdomen should be conducted with the patient lying flat and relaxed, head raised on one pillow, and the whole abdomen exposed from above the xiphisternum to below the pubes. An essential preliminary, so often forgotten that I make no apology for emphasizing it, is that the bladder must be empty, and if there is any reason to doubt this matter a catheter should be passed. Most of us learn this lesson the hard way. Only a few weeks ago I was asked to examine a 20-year-old unconscious girl who had been admitted with severe head injuries as the result of a road accident. She had been noted to have an abdominal swelling to the level of her umbilicus and a houseman was convinced that he had discovered either a pregnancy or an ovarian cyst. His dismay was complete on seeing the tumour drain away through a catheter and he was only slightly consoled when I recounted a similar experience of my own, at his age, with a patient whose "cyst" I demonstrated to a group of students before the arrival of my

chief, who ordered catheterization. My mortification was matched only by the amusement of the students as they watched the abdominal swelling being transferred to the waiting receiver.

Inspection

Inspection should be carried out first and will determine the regularity and contour of the swelling and whether it moves with respiration. In cases of pregnancy fetal movement may be seen, and in gaseous distention peristalsis can often be detected. Examination of the umbilicus may help to differentiate between an ovarian cyst and ascites. In the former the umbilicus is drawn upwards and the slit will be vertical, whereas in ascites the umbilicus is everted and the slit is transverse (Fig. 1).

Palpation

Palpation should be conducted with the warmed hand held horizontal and parallel to the abdomen so that the examiner should be sitting or kneeling. The shape, regularity, consistency, and mobility of the tumour should be noted and in most cases it will be possible to say whether it is arising from the pelvis (though an ovarian cyst or a fibroid on a long pedicle may be confusing). If there is fluid in the abdomen palpation should include ballottement. By this means the head of a fetus in utero can be identified, or in the case of ovarian carcinoma tumour masses can be detected as they float in the ascitic fluid.

Percussion

Percussion will often help to distinguish between fluid free in the abdomen and that contained within a cyst. In the former there is dullness in the flanks and tympanicity in the centre, while in the latter the reverse is the case (Fig. 1). Shifting dullness is also present in the case of ascites and not in a cyst.

The ruler test may also be helpful in distinguishing a cyst from free fluid. In this test a ruler is placed across the lower abdomen at the level of the anterior superior iliac spines. In the case of a cyst aortic pulsation is transmitted to the ruler, where it can be felt with a finger; with free fluid the pulsation is not so transmitted.

FIG. 1

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Auscultation

Auscultation is of value in a pregnancy when, of course, the hearing of the fetal heart is conclusive evidence. If the swelling is due to gaseous distension auscultation will reveal a silent abdomen in the case of postoperative paralytic ileus, while bowel sounds will be frequent and noisy if intestinal obstruction exists.

Vaginal and Rectal Examination

The clinical investigation of a lower abdominal swelling is not complete without vaginal and rectal examination. The former will determine whether the swelling arises in the uterus or ovary; the latter is of value not only in confirming the vaginal findings but also in exploring the pouch of Douglas. The

presence of irregular craggy deposits together with free fluid in the abdomen is highly suggestive of ovarian carcinoma.

Ancillary Aids to Diagnosis

When simple clinical examination, as outlined above, fails to indicate clearly the nature of the swelling recourse must be made to other methods of investigation. These may be classified into two broad groups—firstly, those which can be conducted at the bedside or in the side-room, and, secondly, those which require the more advanced resources of the hospital.

BEDSIDE AIDS

In the former group we can include the following:

- (1) Examination of urine and faeces, and vomitus, if any. Any of these might give a pointer to the origin of the lesion.
- (2) Pregnancy test; if hydatidiform mole is suspected a quantitative test may be informative.
- (3) Sonicaid or Doptone machine for detection of the fetal heart beat.
- (4) Paracentesis abdominis. If it is fairly certain that the swelling contains fluid the introduction of a needle and drainage of the fluid may be doubly valuable from the diagnostic point of view. In the first place the fluid can be centrifuged and the cellular sediment stained and examined microscopically, when the presence of malignant cells will be strongly suggestive of ovarian carcinoma. Secondly, drainage of the fluid will often make it possible to palpate more readily solid or cystic masses which were previously masked by the fluid distending the abdomen.

HOSPITAL AIDS

In the group of diagnostic aids requiring hospital resources the following are available:

(1) *Radiography*.—A straight x-ray film may show a soft tissue mass, and occasionally the presence of a tooth in the abdominal cavity will denote unquestionably the presence of a dermoid cyst of the ovary. Calcification in a fibroid or ovarian fibroma may also be valuable in clinching the diagnosis, while in cases of gaseous distension due to intestinal obstruction fluid levels will be seen. A barium meal or enema may be indicated if a lesion of the alimentary tract is suspected and pyelography—intravenous or retrograde—will exclude conditions such as hypernephroma or polycystic kidney. If a lymph gland mass is suspected then lymphangiography will confirm it. In this investigation a radio-opaque dye is injected into the lymphatics between the toes and its subsequent upward drainage will show radiologically the site and size of the pelvic and abdominal lymph glands.

(2) *Sonar*.—The advent of diagnostic ultrasound has proved extremely valuable in the diagnosis of abdominal tumours which are easily accessible to an ultrasonic probe. Fat provides no problem, being easily penetrated, and the technique is of maximum value in the obese patient whose abdominal covering baffles the clinical examiner. Fig. 2 shows a simple ovarian cyst which is quite transonic so that no echoes intervene between its walls. Free fluid containing loops of bowel (Fig. 3) presents a different picture since the gas in the bowel produces multiple echoes. A fibroid (Fig. 4) is less transonic than a cyst and requires a higher sonic frequency to penetrate its thickness. In pregnancy the fetal head is readily identifiable (Fig. 5.)

(3) *Scintiscan*.—Radioactive isotopes may be useful in the detection of malignant growths or of malignant infiltration of liver or other organs as a cause of abdominal swelling.

(4) *Endoscopic techniques*.—In appropriate cases the gastroscope, cystoscope, and sigmoidoscope all have their uses. Nevertheless, it is the laparoscope which has become increasingly popular over recent years, and, though the technique is not new, the advent of fibroptic methods of illumination has rendered this an invaluable procedure, often sparing the patient unnecessary laparotomy. Not only can the pelvic organs be visualized but in many cases the whole of the abdominal cavity is revealed. For example, in a patient with ascites due to cirrhosis of the liver can be closely inspected and a generous biopsy taken with a Palmer drill biopsy forceps inserted through a separate small cannula.

(5) *Examination under anaesthesia.*—This may be helpful in cases where spasm of the abdominal muscle confuses the diagnosis. Fig. 6 shows a patient who gave a history of 22 weeks' amenorrhoea. Palpation showed what seemed to be a lower abdominal swelling and it was thought to be a gravid uterus, but further investigation with the Sonicaid and with sonar demonstrated that this was not so. This is the type of case in which an anaesthetic will dispel the abdominal spasm and it may be a valuable adjunct when advanced equipment is not available.

FIG. 6

Differential Diagnosis

Since the emphasis is on gynaecological conditions which cause abdominal swelling, we shall consider first those swellings which arise in the pelvis or which involve the lower part of the abdomen.

The time-honoured mnemonic of the conditions beginning with the letter F is still valuable: fat, flatus, fetus, fluid, fibroid, faeces, and full bladder covers most of the relevant diagnoses, except for ovarian tumour. Though in most cases it is fairly easy to differentiate among these conditions sometimes it may be exceedingly difficult, especially in the obese patient or if two of the conditions happen to coexist. Pregnancy may be excluded by an immunological test or by the use of a fetal stethoscope or Sonicaid. A full bladder is readily excluded by means of a catheter, while fibroids can usually be identified by their solid consistency and the irregular shape of the tumour, since they are often multiple. Perhaps most difficult is the differentiation between ascites and a large ovarian cyst, especially if the latter is thin-walled and flaccid. The information to be obtained from clinical examination has already been described and sonar, if it is available, will settle the question.

Once the conditions mentioned above have been excluded the nature of the abdominal swelling has still not been identified there are numerous other causes to be considered which could not possibly be dealt with in an article of this length. Within the past four weeks I have come across hypernephroma, mesenteric cyst, and haematoma of the abdominal wall as causes of abdominal swelling. In all cases a systematic approach is essential and few causes will be missed if one asks oneself the following questions: In which organ or structure does it arise? Is it congenital, traumatic, neoplastic, inflammatory, metabolic, or iatrogenic in origin?

Finally, if the cause remains obscure and the question of malignant disease cannot be completely excluded, then laparoscopy or laparotomy must be undertaken.

Today's Drugs

With the help of expert contributors we print in this section notes on drugs in common use

Hormones in Advanced Cancer

There is now little doubt that the growth rate of some tumours is influenced by changes in their hormonal environment. Of the solid tumours, carcinoma of the breast, prostate, ovary, and uterus are influenced by the sex hormones and corticosteroids, and thyroid carcinoma by thyroid hormones. The reticuloses and leukaemias are also profoundly affected by corticosteroid hormones, but will be considered only briefly in this article.

Carcinoma of the breast is the most common of these tumours, and the most frequently treated by hormones in its advanced stages. In general, about 30% of patients given hormones of any type will improve, with evidence of regression or stasis of tumour growth. A further, smaller, percentage will improve symptomatically, but without evidence of tumour regression. Nevertheless, the administration of any of these therapeutic hormones carries a risk of side effects, which are commonly minor, but which may be major or, rarely, fatal. A calculated risk must be taken to achieve worthwhile palliation of symptoms.

Carcinoma of the Breast

OESTROGENS

Oestrogens may be given to postmenopausal women (that is, five years after the last menstrual period) with inoperable or metastatic cancer of the breast. They should not be given to menopausal women, as there may be a risk of enhancing tumour growth. Many excellent remissions are observed; up to 40% in postmenopausal patients with locally recurrent disease, for whom oestrogens are the treatment of choice.

Diethyl stilboestrol (stilboestrol), 5 mg three times a day, is an adequate dose—higher doses merely increasing the risk of side effects. A response should be seen within six weeks; otherwise the drug should be discontinued. Ethinyloestradiol may be substituted in those who are intolerant to stilboestrol, in a dose of 0.1-0.2 mg thrice daily. It is said to have fewer side effects than stilboestrol, but it is not so commonly used and therefore less is known about them.