LOWER-LIMB PAIN IN CHRONIC RUPTURE OF ABDOMINAL ANEURYSMS

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The common methods of presentation of aneurysms of the aorta and common iliac artery are well known (Barratt-Boyes, 1957). They may be discovered accidentally at examination or at operation for some unrelated condition. They may present as abdominal swellings noticed by the patient or give rise to symptoms due to pressure on surrounding structures; of particular importance is the presence of abdominal pain radiating through to the back, or back pain alone may occur.

When acute rupture takes place abdominal pain is severe and there is the picture of an acute abdominal emergency with signs of shock, internal haemorrhage, and an enlarging tender abdominal swelling, usually more pronounced on the left side. Aneurysmal rupture may, however, be subacute or chronic for a considerable period before the acute episode of haemorrhage occurs and may then give rise to misleading symptoms. The following three cases—two of aortic and one of common iliac artery aneurysm—all presented with pain referred to the lower limb and were treated under the impression that this was due to a skeletal cause, until sudden acute on chronic rupture of the sac, accompanied for the first time by abdominal pain, revealed their true nature.

Case 1

A man aged 64 was admitted to hospital under the care of one of us (E.J.G.) on June 10, 1959, complaining of having had pain in the region of the left hip for three weeks. The pain was severe and radiated down the leg, and there was little relief on resting. He had suffered from tuberculosis of the right hip in 1915, and this was followed by ankylosis of the joint and some shortening of the leg. His previous health had been otherwise good.

Examination showed limitation of movements of the left hip in all directions and diminution of the left knee-jerk. Both ankle-jerks were normal and the plantar reflexes were flexor. The pulses in the legs were normal. X-ray examination of the left hip-joint showed no abnormality, that of the lumbar spine spondylosis only, and the chest was clear. Treatment with "butazolidin" and traction produced some temporary relief in severity of the pain. In the next few weeks increasing weakness of the left quadriceps muscle developed with some wasting. The left knee-jerk was obtained only with reinforcement, and there was sensory loss over the inner side of the thigh. A myelogram on July 30 showed no abnormality. A neurological opinion arising from this investigation confirmed the presence of an L3 root pressure syndrome, and exploratory laminectomy was advised with a tentative diagnosis of neurofibroma or secondary carcinoma. This was carried out on August 25 (E.J.G.).

The spinal canal from L1 to L4 was exposed but no abnormality was discovered. There was no evidence of vertebral disk prolapse and exploration of disk spaces was not carried out. Post-operative progress, apart from continued pain in the left hip, was satisfactory until September 6, when pain spread to the left side of the abdomen. Examination at this time showed a hard, tender mass in this region which was pulsatile. The pulsation was thought to be transmitted and not expansile. Pain became

more severe and the swelling larger during the next 24 hours, with a rising pulse rate and evidence of continuing internal haemorrhage and swelling of the left leg due to pressure on the left iliac vein.

A diagnosis of ruptured aortic aneurysm was made and operation was carried out on September 7 (C.R.S.) after further blood transfusion. This confirmed the presence of a large retroperitoneal haematoma resulting from acute on chronic rupture of an abdominal aortic aneurysm; active bleeding and both old and recent clot were present. Resection of the aneurysm was performed, followed by the insertion of a Teflon bifurcation graft. Recovery from operation was satisfactory except for a temporary oliguria in the early period (maximum blood urea 134 mg./100 ml.) which responded to standard treatment.

Case 2

A male aged 76 was admitted on May 4, 1959, with severe abdominal pain of about 10 hours' duration. The pain was most severe in the right lower quadrant, but the history was difficult to obtain owing to his extremely shocked condition. He had been attending the hospital orthopaedic department for the previous month as an out-patient for treatment of pain in the right hip and thigh, of three months' duration, accompanied by paraesthesia, pain on straight-leg raising, and diminution of the ankle-jerk. There had been some slight improvement in his symptoms immediately preceding the acute onset of abdominal pain.

Examination on admission showed him to be extremely pale, shocked, and cold; temperature 96.4° F. (35.8° C.), pulse 86, respirations 24, blood-pressure 80/60. There was marked guarding, rigidity, and tenderness in the right lower quadrant of the abdomen, where a large swelling was present. Pulsation was not detected. Both femoral pulses were present. A diagnosis of ruptured abdominal aneurysm was made. Intensive treatment for shock and haemorrhage was carried out in the course of the next few hours. Despite replacement of blood loss—9 pints (5.1 litres)—his condition failed to improve and his blood-pressure fell to 70/50. It was felt, nevertheless, that surgical treatment offered the only chance of survival. Before this could be carried out, however, he collapsed and died five hours after admission to hospital. Necropsy confirmed the presence of a large ruptured abdominal aneurysm with an enormous retroperitoneal haematoma, most pronounced on the right side.

Case 3

A man aged 28 was admitted on July 19, 1957, under the care of Dr. S. Whittaker with a three-weeks history of pain in the left leg starting at the knee and later involving the thigh and hip region. For two weeks he had also noticed numbness in the left foot which had gradually extended up the leg. Treatment had been carried out by his family doctor with bed rest, radiant heat, and analgesics, but there had been no significant relief. The pain had become more severe the day before admission. He had been blind since the age of 18 years, when he had been found to be suffering from Behcet's syndrome. His health had otherwise been good.

On examination his temperature was 101.4° F. (38.6° C.), pulse 114, and blood-pressure 140/80. He was not clinically anaemic. Heart and chest showed no abnormality. Positive findings were flexion of the left knee and hip with obvious pain in these regions. Spasms of more severe pain occurred at intervals, and appeared to be unrelated to movement. Limitation of movements in the left hip-joint was present and straight-leg raising caused pain in the flexor muscles of the thigh. Reflexes in the legs were normal, but there was some sensory loss to pin-prick extending up the inner side of the left leg from the ankle to the mid-thigh. There was slight diminution of vibration sense on the same side. Tenderness was present in the left iliac fossa but no swelling was felt. Pulses in the legs were present and equal on both sides. Investigations: haemoglobin, 11 g./100 ml.; W.B.C., 20,600/c.mm. (polymorphs, 74%). X-ray films of the chest

showed nothing abnormal, and those of the pelvis were unsatisfactory owing to flexion of the hip causing technical difficulties.

Symptomatic treatment was given, and on July 20 his condition was unaltered. On July 21 the pain in his left hip became much more severe and spread to the left side of his abdomen. He was found to be pale, cold, and sweating, with a subnormal temperature and raised pulse rate. There was marked guarding in the left iliac fossa, and a large tender non-pulsatile swelling was felt. The signs in the left leg, apart from increased flexion of the hip, were as before. A diagnosis of retroperitoneal haemorrhage was made.

After blood replacement, operation was carried out by one of us (C. R. S.) the same day (July 21). This confirmed the presence of a large retroperitoneal haematoma on the left side with a small quantity of blood in the peritoneal cavity. Both recent and old blood-clot were present and there was gross disruption of the psoas muscle and retroperitoneal tissues. The aorta and iliac arteries appeared normal and bleeding had ceased. The left kidney was also normal. Despite a careful search the source of bleeding was not discovered and the wound was closed, with drainage. Five hours after operation renewed bleeding occurred through the drain site: this was controlled by blood replacement. The next day, however, a further massive haemorrhage took place, and, despite blood transfusion, he died later the same day. Necropsy revealed a ruptured aneurysm about 1 cm. in diameter arising from behind the bifurcation of the left common iliac artery. It was thought to be of congenital origin, as there was no evidence of arteriosclerosis.

Discussion

Bonney (1956) and Filtzer and Bahnson (1959) have drawn attention to the occurrence of pain in the back and lower limb in occlusive disease of the aorto-iliac arteries and have stressed the importance in diagnosis of a history of its relation to exercise and the necessity for routine palpation of the femoral arteries. That pain may be referred to the lower limb from leaking aorto-iliac aneurysms is less well known, and the diagnosis of such cases may be extremely difficult. A history of claudication is likely to be absent and the femoral pulses will probably be normal. Early recognition is of great importance, and may be assisted by attention to the following points. The distribution of referred pain in leaking aneurysm is likely to differ from that of the usual sciatic-nerve-root-pressure syndromes, and it is unlikely to be relieved by the standard conservative measures used in the treatment of these conditions. Careful abdominal palpation should be added to the routine examination of cases of backache and lower-limb pain and may reveal an abdominal swelling which may be pulsatile. The presence of obesity can, however, result in even large swellings in the retroperitoneum being overlooked. Radiography of the abdomen will show calcification in the wall of aneurysms in a small proportion of cases, but erosion of the vertebral bodies is rarely seen.

Summary

Three cases of referred pain in the lower limb due to chronic rupture of aortic and iliac aneurysms are described. The difficulty in diagnosis is stressed, and the necessity for consideration to be given to the condition as a cause for atypical "sciatic" root pain is emphasized.

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CARCINOMA OF THE BRONCHUS PRESENTING WITH GASTRO-INTESTINAL SYMPTOMS

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The object of this paper is to draw attention to the fact that carcinoma of the bronchus may present with gastro-intestinal symptoms.

In the terminal stages of any fatal illness the patient may suffer from gastro-intestinal disturbances, and in such circumstances they give rise to no great diagnostic difficulty. When, however, abdominal symptoms are the first indication of a serious respiratory disease, it is vital that their significance should not be overlooked. A series of cases of carcinoma of the bronchus is presented illustrating this point.

Material

In the period June, 1956, to July, 1958, out of 333 patients with carcinoma of the bronchus admitted to the department of thoracic surgery at the London Hospital, 17 presented with gastro-intestinal symptoms. In no instance was there evidence of intra-abdominal metastases on clinical examination. In 13 cases the growth was resected either by pneumonectomy or by lobectomy. Of the remaining four, two were found to have irremovable lesions at thoracotomy, and two were not subjected to surgery, spinal metastases being present in one and pleural involvement, proved by needle biopsy, in the other.

The patients can be divided into two groups. Group 1 consists of five cases which on investigation were shown to have ulceration of the stomach or of the duodenum, as well as a carcinoma of the bronchus. Group 2 consists of 12 cases in which no peptic ulceration was demonstrated, the bronchial lesion alone being held responsible for the abdominal symptoms.

Four case-histories are given to illustrate the type of clinical presentation encountered. The Table gives details of all the cases.

Case Reports

Case 1.—Six months prior to admission, a man aged 55 developed symptoms of vomiting after meals associated with epigastric pain which was relieved by alkalis. He had had no previous gastric symptoms, but was accustomed to smoking 25 cigarettes a day. One month prior to admission, a barium-meal examination showed the presence of a duodenal ulcer for which conservative treatment was advised. His vomiting became so severe that he had to be admitted to hospital, and an x-ray film of the chest taken at that time showed a lesion in the left lower lobe. At operation a carcinoma was found arising in the apical segment of the lower lobe and spreading on to the left main bronchus to involve the vagus nerve below the origin of the recurrent laryngeal branch. A pneumonectomy was performed. After operation the patient had no further symptoms referable to the duodenal ulcer, though no other treatment was given.

Case 3.—Two months prior to admission, a man aged 63 developed symptoms of flatulence and epigastric pain one

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