Medical Memoranda

Distension of Bladder Presenting as Oedema of Legs

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Though symptoms of pelvic vein compression are relatively common in patients with pelvic tumours, few cases are recorded in which this condition was due to a chronically distended bladder.

Case Report

A 71-year-old retired brick-worker was referred to the outpatient department on account of abdominal distension and gross swelling of both legs and genitalia for an indefinite period. In addition, he had been feeling generally unwell for several months, and more recently had developed increasing constipation, loss of appetite, and some loss of weight.

He was admitted to hospital on 28 February 1968 for investigation. His history on admission was as above. Direct questioning, however, revealed that he had had some increased frequency of micturition by day following a transvesical prostatectomy performed two years previously at another hospital, and that he voided only small amounts of urine at a time. During the week before entering hospital he gave a vague history of several episodes of haematuria. General inquiry failed to reveal any cardiovascular abnormality which could have accounted for his present signs. Apart from the prostatectomy two years previously his past history was negative.

On examination he appeared pale and starved. There was no lymphadenopathy or jaundice. The neck veins were not engorged. His pulse was regular at 80 a minute, and blood pressure was 160/100 mm. Hg. Cardiovascular and respiratory systems were normal for his age. The abdomen was grossly distended, and large prominent veins were visible from symphysis pubis to xiphisternum, suggesting an inferior vena caval obstruction. The distension was so great that it was impossible to feel any intra-abdominal organs. A large left inguinal hernia was present and the external genitalia were oedematous. Rectal examination revealed no abnormality, but there was a tense bulging on the anterior rectal wall suggestive of pressure from without by a tumour. Both lower limbs were grossly oedematous from groin to toes. There was no evidence of venous thrombosis. A clinical diagnosis of pelvic neoplasm with compression of the pelvic veins was made.

The following investigations were carried out: Haemoglobin 90%, white cell count 9,500/cu. mm., E.S.R. 10 mm. in first hour, and blood urea 38 mg./100 ml. Mid-stream specimen of urine was sterile on culture, serum electrolytes and liver function tests were within normal limits, and serum creatinine was 1.3 mg./100 ml. An electrocardiogram and chest *x*-ray picture were reported as normal. Plain *x*-ray examination of the abdomen showed a cystic mass arising from the pelvis and extending to the xiphisternum, compressing the gas-filled bowel above it. An intravenous pyelogram showed considerable delay in excretion of the dye by both kidneys. Bilateral hydronephrosis and hydroureters were present. The bladder itself was not visualized.

On 3 March cystoscopy was performed under general anaesthesia and 6.8 litres of urine was drained slowly. The bladder, ureteric orifices, and bladder neck appeared normal, but the bladder wall was atonic. There was no evidence of obstruction. Continuous catheter drainage was then established. Within three days the swelling of the legs and external genitalia disappeared completely, and the veins over the abdominal wall were no longer visible. The patient's general condition improved considerably.

On 7 March a Hamilton Stewart (1966) cystoplasty was performed to reduce the size of the bladder. Two weeks later the patient was discharged home. When seen in the outpatient department two months later he was in good health, there had been no recurrence of the swelling of his legs or genitalia, and micturition had returned to normal.

Comment

A study of the literature has revealed very few reports of vascular obstruction due to bladder distension. Carlsson and Garsten (1960) described its occurrence in a 3-week-old baby, while Stoutz (1961) recorded two adult cases. Recently, interest was aroused by Young and Mitchell (1968), who described two cases in which a distended bladder caused gross oedema of the lower limbs and external genitalia. In both patients the aetiological agent was prostatic obstruction giving rise to bladder distension.

A similar case is here recorded in which gross chronic distension of an atonic bladder causing massive oedema of the lower limbs and external genitalia was the presenting symptom. After four days' catheter drainage the symptoms completely disappeared, and after cystoplasty did not return. As no other cause for the oedema was found there seems to be no doubt that the distended atonic bladder was responsible for compression of the pelvic veins.

I wish to thank Mr. G. J. Hadfield for his advice and help and for permitting me to report this case.

HAZIQ-UL-YAQIN, F.R.C.S., F.R.C.S.ED.,
Surgical Registrar,
Stoke Mandeville Hospital, Aylesbury, Bucks.

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Acquired Sternal Depression associated with Cardiac Arrhythmia

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Reports of acquired sternal depression other than that due to major chest trauma are rare (Clemmens and Reyes, 1959; Meschan, 1966). We report a case in which severe sternal depression associated with a cardiac arrhythmia resulted from prolonged chest bandaging during adolescence. After removal of the bandages the chest returned to normal shape over a period of four months, and the arrhythmia disappeared.

Case Report

The patient, a girl of 15 years, was a transsexualist. Details of the history and treatment of the psychiatric condition in this particular case are not given here. It should be stated, however, that transsexualists are a group of people who wish to become members of the opposite sex and often experience a desire to have their bodies altered. It is important, therefore, to distinguish the condition from transvestism, which is simply the practice of wearing the dress of the opposite sex (*Brit. med. J.*, 1966).

Our patient presented in October 1967 with a request for bilateral mastectomy as a "conversion operation." During mid-1966 she started to bandage her chest tightly in order to prevent her breasts developing. She removed and then immediately replaced and

retightened the bandages daily. The final tightening was done during expiration. At times her breathing felt strained, but she wore the bandages day and night until January 1968.

She was admitted for psychiatric care in October 1967. At that time the pulse was irregular, probably due to extrasystoles. She refused to remove the chest bandages for clinical examination and refused an electrocardiogram. A chest *x*-ray film taken in November showed severe sternal depression with marked reduction in the anteroposterior diameter of the chest. The heart was enlarged and appeared compressed between the sternum and the spine (Fig. 1).

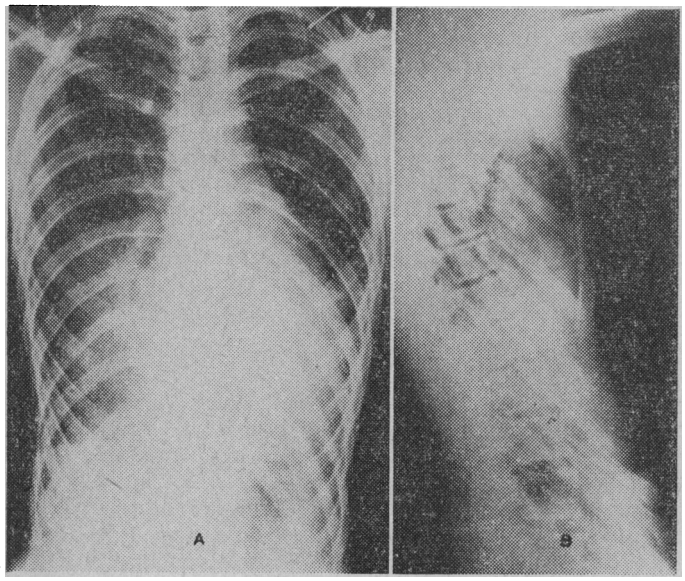

FIG. 1.—Posteroanterior and lateral chest radiographs showing severe sternal depression due to chest bandages. The bandages are in place.

In view of the finding it became important to remove the bandages as soon as possible. The patient refused to allow this, however, and at this stage it was felt that it would interfere with her psychiatric treatment to remove them forcibly.

She finally agreed to remove the bandages in January 1968, and sternal depression was obvious. An electrocardiogram in March showed periods of sinus arrest with multifocal ventricular ectopics. A chest *x*-ray film taken in May, four months after removal of the bandages, showed the sternal depression had almost completely regressed, and the heart was normal in configuration (Fig. 2). The E.C.G. showed sinus rhythm and no abnormality.

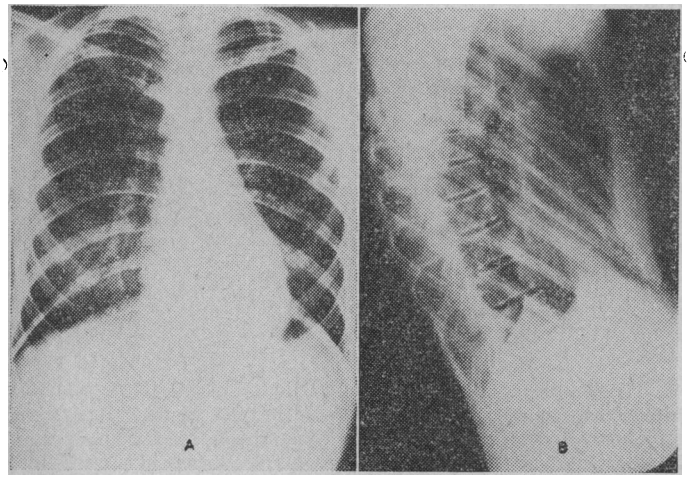

FIG. 2.—Chest radiographs taken four months after removal of bandages, showing regression of sternal depression.

COMMENT

Though the shape of the patient's chest before bandaging is not known, the regression of the sternal depression after removal of the bandages strongly suggests that the sternal depression resulted from prolonged external constriction of the thoracic cage during a period of growth. We have been unable to find reports of similar cases. Sternal depression, however, has been noticed in shoemakers, who had bent over the last for prolonged periods.

Severe congenital sternal depression may embarrass cardiac function and even cause cardiac failure. Ravitch (1951) reported the case of a 28-year-old man with severe sternal depression who developed atrial fibrillation and cardiac failure. Diaz *et al.* (1962) reviewed the haemodynamic and electrocardiographic consequences of severe pectus excavatum.

The arrhythmia in our patient was present during the period of maximum chest deformity, and disappeared when the chest returned to normal shape. Various arrhythmias have been described in patients with congenital sternal depression. Sweet (1944) and Dorner *et al.* (1950) each observed a patient with paroxysmal supraventricular tachycardia and sternal depression. Ravitch's (1951) patient had atrial fibrillation, as had a patient seen by Edeiken and Wolferth (1932). Schaub and Wegmann (1954) noted abnormal cardiac rhythms in 13 of a series of 103 patients with funnel chest (an incidence of 12%); these included atrial ectopics (5 cases), monofocal right ventricular ectopics (3 cases), nodal rhythm (2 cases), supraventricular tachycardia (2 cases), and one patient who had periods of sinus arrest with nodal escape beats. We conclude that in the case reported here the transient sternal depression was due to prolonged bandaging of the chest, and suggest that the associated cardiac arrhythmia resulted from the extreme distortion of the thoracic cage.

We wish to thank Dr. Raymond Levy for his help and encouragement and for allowing us to publish details of this case.

RICHARD J. PERKINS, M.B., B.S.,
Senior House Officer, Academic Department of Psychiatry, the Middlesex Hospital, London, W.1.

JOHN SEYMOUR, M.B., M.R.C.P.,
Senior Registrar, Cardiac Department, the Middlesex Hospital, London W.1.

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