

Actinobacillus lignieresii human infection¹

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Actinobacillosis was first described by Lignieres & Spitz (1902) in cattle in Argentina, and was subsequently reported in sheep (Davis & Stiles 1939, Marsh & Wilkins 1939, Taylor 1954, Laws 1969) and in the dog (Carb 1969). The appearance of multiple nodules in the subcutaneous tissue is a common feature in infected animals. The mouth, tongue, pharynx, internal organs and regional lymph nodes are frequently involved. The nodules become necrotic and ulcerated, discharging a yellow-green viscid purulent content. Contrary to actinomycetes which demonstrate a predilection for the skeletal system, the actinobacillus has a tendency to invade the soft tissue and organs like the lungs, abdominal and pelvic viscera, and lymph nodes (Custis *et al.* 1944).

Human infection is extremely rare. A review of the literature reveals only eight cases of proven *Actinobacillus lignieresii* infection in man, three of them fatal. Ravault & Pinoy (1911) reported actinobacillar meningitis complicating otitis and mastoiditis. Additional reports include: fatal meningitis in a newborn infected by cow's milk (Gerdine & Pease 1926); sepsis developing in a butcher with a traumatic abdominal wound probably produced by a contaminated knife (Thompson & Willius 1932); fulminating suppurative bronchopneumonia with metastatic abscesses in the liver, kidneys and spleen (Beaver & Thompson 1933); fatal mitral endocarditis with focal embolic nephritis and embolic disturbances in the spleen, the meninges and the skin (Custis *et al.* 1944); ileocaecal lymph node involvement in a girl operated with a diagnosis of acute appendicitis (Flamm & Jonas 1956); conjunctivitis (Flamm & Wiedermann 1962); and pneumonia (Pavckova *et al.* 1973).

An unusual case of *Actinobacillus lignieresii* human infection, the ninth in the literature, is presented.

Case report

A 47-year-old farmer from Iran was admitted to the Surgical Department of Ichilov Hospital, Tel-Aviv, with an active suppurative fistula in the left lumbar region and a colostomy in the left abdomen. Three-and-a-half years earlier in Iran, a left lumbar abscess had been opened and drained, followed soon thereafter by the appearance of faecal content, together with purulent discharge of the opened abscess; for this reason, a proximal colostomy was then performed.

At admission, physical examination showed a good general condition and laboratory tests were within normal limits. Plain X-rays of the abdomen revealed a particular deformation in the left transverse process of the third lumbar vertebra (Figure 1). Suspecting that the condition was the result of surgical trauma to the left colon during drainage of the lumbar abscess, a segmental resection of the injured colon was performed. Histopathological examination of the resected specimen showed chronic and acute inflammatory infiltration.

The lumbar fistula healed very slowly, and when its discharge seemed to diminish the patient left hospital and returned to his country. Six months later he was readmitted because of reappearance of the purulent discharge from the fistula. Local resection of the fibrous tract was performed and pathological examination revealed nonspecific granulation tissue; only partial healing was achieved. A few months later the patient was readmitted because of deterioration of his general condition and reactivation of the fistula. Fistulography showed the fistulous tract connected to a retroperitoneal cavity near the left side of the vertebral column (Figure 2). A barium enema, IVP and laboratory tests were normal. A new surgical resection of the fistula was performed, during which the left colon was injured at a point where it had

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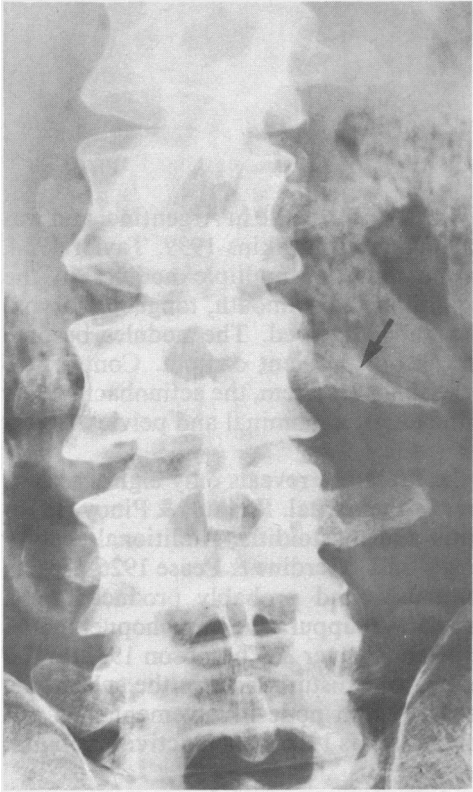


Figure 1. An uncommon deformation in the left transverse process of the third lumbar vertebra (arrowed)



Figure 2. Fistulography shows the fistulous tract connected to a retroperitoneal cavity near the left side of the lumbar vertebral column

firmly adhered to both the fibrous tract and the iliac bone. The colon was immediately sutured, and it healed. A few months later a left paravertebral abscess was noted in the left dorsal region, at the level of the eighth and ninth dorsal vertebrae. Surgical drainage was carried out and a connection with the chronic lumbar fistula was found. Culture of the purulent content revealed for the first time the presence of *Actinobacillus lignieresii*. After a few days faecal discharge reappeared together with the pus. New X-rays of the vertebral column revealed collapse of the first lumbar vertebra (Figure 3).

Based on the bacteriological findings, medical treatment was begun, consisting of potassium iodide, tetracycline and local washing with povidone-iodine. Potassium iodide, which is quite effective in the treatment of the disease in cattle and has been used with some success in the chronic forms of the disease in man (Joklik & Smith 1972), was administered for three weeks. Tetracycline was elected according to bacterial sensitivity. Only after some weeks of treatment did both the dorsal abscess and the old lumbar fistula show evident signs of healing. After two months the colonic post-traumatic fistula was resected; no other intra-abdominal pathology was noted. Four months after beginning the aforementioned medical treatment, the dorsal abscess and the lumbar fistula had completely healed. The patient gained weight and was discharged from hospital in a good general condition. Since then—some two years—no further recurrence has been reported.

Discussion

In contrast to previous reports, the present case of actinobacillus infection had a chronic and long evolution. Although the point of entry of the infectious agent could not be identified, the

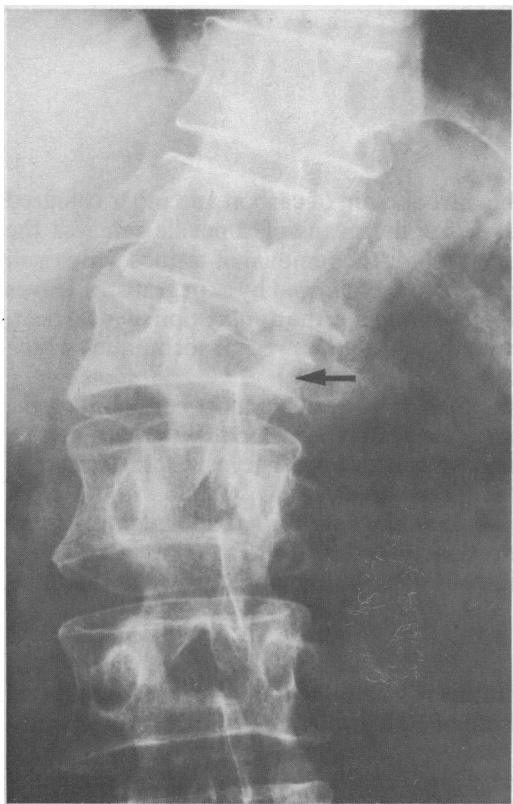


Figure 3. Collapse of the first lumbar vertebra (arrowed)

contact of the patient with cows and sheep led us to suspect the exogenic origin of the infection, either through a skin wound (Thompson & Willius 1932) or by indirect contamination, as in the case described by Gerdine & Pease (1926) where milk was the contaminating agent.

In the present case, the repeated recurrences of the chronic fistula and the invasion to the lumbar vertebral column were indicative of the aggressive nature of the infection. Surgical excisions of the fistula were unsuccessful until bacteriological identification of the aetiological agent allowed control of the disease.

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