

## EPIDERMAL CYST IN THE SPINAL CORD OF A LAMB(\*)

M. BAHARSEFAT, A. R. AMJADI, B. YAMINI and P. AHOURAI

**Summary.**—Clinical and pathological findings are reported in a case of epidermal cyst in the spinal cord of an eight-month-old lamb.

### Introduction

The occurrence of epidermal cysts in the central nervous system and its coverings of man is well known (Willis, 1962), and Levine has reported the incidental finding of these cysts in the spinal cords of laboratory rats (Levine, 1966). The stratum granulosum found in the wall of these skin-lined cysts, together with the presence of hairs or follicles and sebaceous or sweat glands, indicate their epidermal nature. The object of this communication is to report a case of an epidermal cyst within the spinal cord of a lamb.

### The Subject

During a survey in Iran of lumbar paralysis in sheep due to nematodiasis and other cases, we received a paralysed female lamb from State Alah-abad Farm in the Ghazvin area, in August, 1970.

### Clinical Signs

It was about eight months old, and the earliest sign of disease, *i.e.* incoordination and lameness, had been noticed by the farm veterinarian approximately 60 days before the animal was sent to the laboratory. The lamb exhibited progressive flaccid paralysis accompanied by emaciation, weakness and anaemia. Appetite was normal, but, because of paralysis, the animal could not get enough food, and so weight gain was retarded. There was no elevation of body temperature. Medication had proved useless. The animal was depressed, lying down, and unable to move because of complete paralysis of the hindlegs. It could stand on its forelegs, if the hindquarters were supported, but when they were

---

(\*) Reprinted from Veterinary Record. 1972.91.36-38

released the hindlegs could not carry the bodyweight, and the animal sat on them like a dog (Fig. 1).



Fig. 1.—The lamb with complete lumbar paralysis. The hindlegs could not carry the body weight and so forced the animal to sit like a dog.

### **Gross Pathological Findings**

The lamb was slaughtered, and *post - mortem* examination was performed immediately. The animal was emaciated and anaemic. The kidneys were pale and enlarged, due to urine retention, and the urinary bladder was severely distended. The lymph-nodes, especially the mesenteric and inguinals, were oede-

matous. The other internal organs seemed to be normal. The brain was moderately congested, and the subdural space was distended 5 mm. on each side and filled with clear, watery fluid. The brain showed pressure atrophy. An excess of cerebrospinal fluid was also found in the subdural space of the spinal cord which was swollen and firm in the region of the third lumbar vertebra. The swollen part was oval, approximately 2 cm. in diameter at its widest part, gradually decreasing to the normal thickness of the spinal cord (Fig. 2). The left

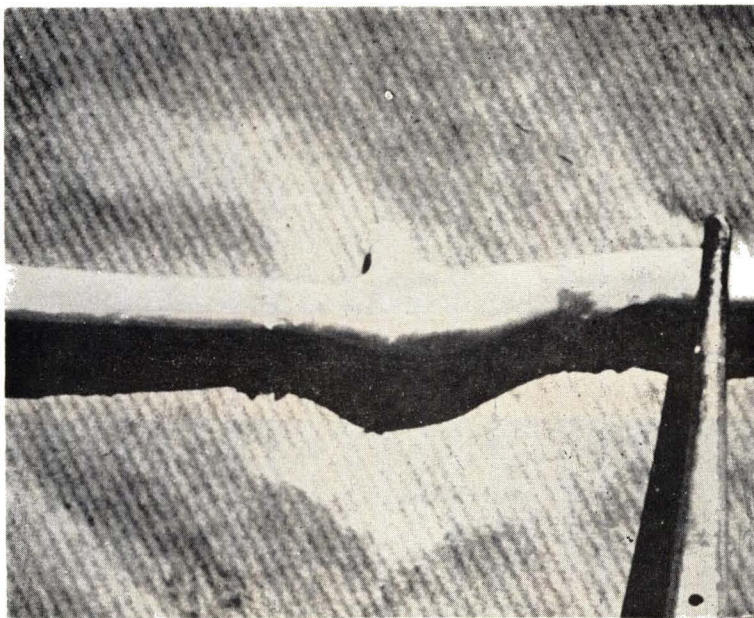


Fig. 2.—Swollen part of the spinal cord. Note the swollen nerve.

spinal nerve deriving from the enlarged area was also enlarged and swollen. On cutting through the middle of the swelling a round cavity, 16 mm. in diameter with a thin wall, was found. The cyst wall consisted of two distinct layers. The outer layer was rather thicker and white in colour, while the inner layer was thinner and greyish. The cavity contained greyish-yellow semi-fluid material and a tangle of wool (Fig. 3).

### **Histopathological Changes**

The cyst was located within the spinal cord and its wall was completely surrounded by nervous tissue (Fig. 4).



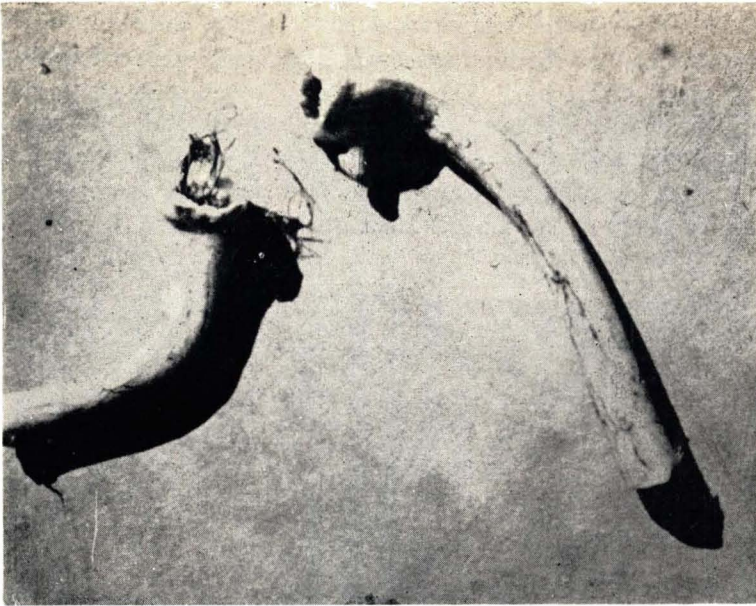


Fig. 3.—A cut through the swollen part illustrated in Fig. 2. Note the wool tangle in the cyst.

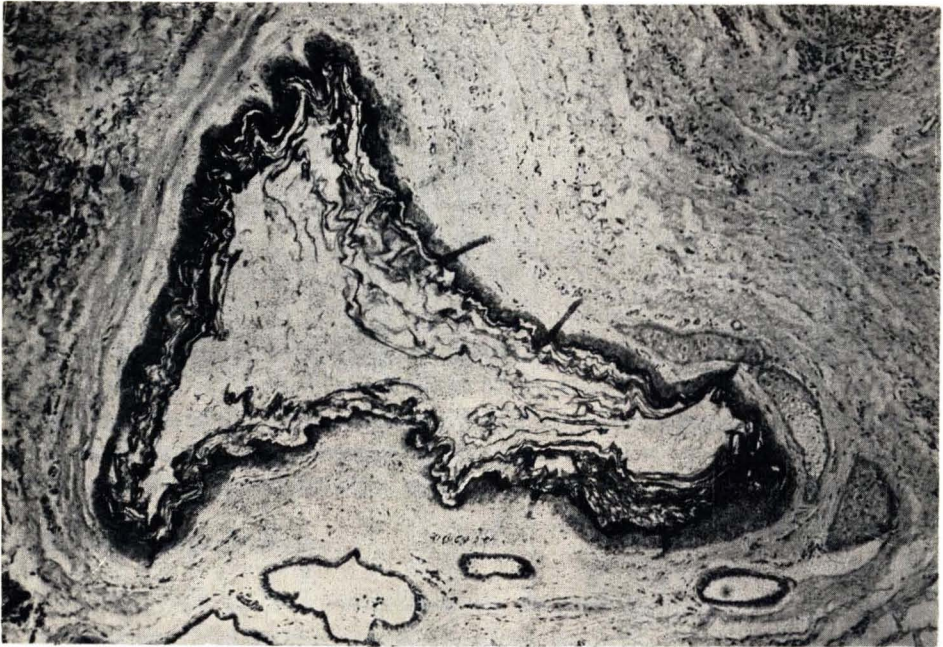


Fig. 4.—A section from upper part of the cyst. Note location of the cyst within the spinal cord.  
×40.

In the cavity of the cyst was a large mass of concentric and irregularly laminated keratin, containing hairs cut in various directions.

The cyst lining had the structure of skin, showing hair follicles, hairs, sweat and sebaceous glands. The outer layer consisted of the nervous tissue of the spinal cord and its meninges.

There were signs of pressure atrophy and visible neuronal degeneration in the surrounding cord tissue.

## **Discussion**

Epidermal cysts of the spinal canal or cord are rare. Most of these cysts are associated with imperfect or anomalous dorsal closure of the neural tube and its coverings, but in a few cases there is no sign of dysraphism (Willis, 1962).

The cysts may arise by dislocation of prospective epidermis during the formation and closure of the neural tube, or by heteroplasia of prospective neural tissue.

## **References**

Garner, F. M., Innes, J. R. M., & Nelson, D. H. (1967).

Murine Neuropathology. In: Pathology of Laboratory Rats and Mice. Ed. Cotchin, E. and Roe, F. J. C. Oxford: Blackwell. pp. 341–342.

Levine, S. (1966). *J. Neuropath. exp. Neurol.* **25**. 498.

Willis, R. A. (1962). *The Borderland of Embryology & Pathology*. pp. 316–318. London: Butterworth.

## **Résumé**

Cet article traite des découvertes d'ordre clinique et pathologique faites à partir de l'étude d'un cas de kyste épidermique à la moelle épinière d'un agneau âgé de 8 mois.

## **Zusammenfassung**

Vorstehend wird ein Fall einer epidermalen Zyste im Rückenmark eines 8 Monate alten Lammes berichtet und der klinische sowie der pathologische Befund mitgeteilt.