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Cervical Spondylitis (Case Report)

by

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Introduction

Tuberculous spondylitis in children is usually due to dissemination of tubercle bacilli by the blood stream from the initial infection which is in the majority of cases a pulmonary primary tuberculosis.

About five per cent of the large group of children pulmonary primary tuberculosis have (a) complication in bone and joint (Lincoln and Sewell, 1963). Any bone of the body can be involved. The most common site, however, is the spine column of which the thoracic part, especially the lower is the most common site. The cervical segments are next in order of frequency. Sularto et al. (1970), however, found that the upper part of the lumbar spine was the most common site of involvement.

Bone tissue is often destroyed, the necrotic process may invade the surrounding tissues and form cold

abscesses. The diagnosis is mostly made only when the patient is admitted to the hospital.

The purpose of this paper is to report a very rare case of spondylitis in the higher part of the cervical column with tuberculosis as the most probable cause with a cold abscess in the retropharyngeal space. Surgical intervention was successfully performed to correct the deformity.

Case Report

S., a 12-year-old Chinese girl was admitted to the hospital on April 2, 1971. She was sent by a pediatrician for observation of possible lymphosarcoma.

According to the mother and the girl herself, about five weeks ago she started to have a swelling on both sides of her neck and suffer from pain in the region of the occiput and neck, especially in moving her head. Five days prior to ad-

mission she got difficulties in swallowing and sometimes became dyspnoeic.

Four months before admission a swelling on the proximal site of the lower right arm was seen.

Pregnancy and delivery were uneventful, physical and mental development were normal. Family history did not reveal any similar abnormalities; contacts with pulmonary tuberculosis were denied. Her father died five years ago from jaundice.

No B.C.G. vaccination was given. Physical examination on admission revealed an anemic, ill looking, malnourished girl with a body weight of 18 Kg, height of 130 cm and temperature of 37.3 Centigrade.

On both sites of the neck a swelling was seen with a diameter of 4 X 3 cm, elastic in consistency, unmovable from the base. The neck was painful in moving, a marked limitation of flexion and extension was present. Pharynx and tonsils were hyperemic, discharge in the nares was positive. Heart, lung and abdomen were within normal limits.

On the proximal site of the right lower arm and on the distal site of the upper right arm fluctuating swellings with ulcers were found. No lymphnode enlargement was found except in the right axillar and the neck regions.

The working diagnosis at that time was observation of lymphosarcoma and severe nasopharyngitis.

For the latter Erythromycin was given.

Follow up :

Mantoux reaction 1/2000 O.T. was positive (12 X 12 mm).

Two days after admission she developed signs and symptoms of restlessness, dyspnea and more pain on moving the neck.

Roentgenogram of the chest showed a dense area in the right upper lung. The sixth right rib showed also radiolucency.

The lateral roentgenogram of the neck showed destructive changes in the second cervical vertebral body. The odontoid body and head of the first cervical spine were displaced anteriorly. Retropharyngeal space was very wide.

Based on the clinical findings and roentgenograms, the diagnosis of a retropharyngeal abscess caused by cervical spondylitis was established. Incision of the retropharyngeal abscess was performed by the E.N.T. Department; greenish yellow viscous pus of about 80 ml was obtained. Direct microscopical examination of the pus revealed no acid-fast bacilli but on culture of the specimen *Pyocyanus* and *Staphylococcus aureus hemolyticus* were found.

Histological (PH. 711864) the biopsy specimens of the lymphnode swelling of the neck revealed lymphadenitis tuberculosa caseosa. Other laboratory data were: hemoglobin 9.5 gm%, erythrocytes 4.08 mil./

cu.mm, leucocytes 14.000/cu.mm, diff. count eos. 4%, band neutrophils 2%, segm. 70%, lymphocytes 21%, monocytes 3%. Blood sedimentation rate was 95/125 mm.

The cerebrospinal fluid was normal. Urinalysis and stool examination were normal.

Roentgenogram of the right arm showed a destructive lesion and periosteal reaction in the proximal site of radius and ulna.

Neurological examination revealed hemiparesis spastica sinistra caused by cervical spondylitis.

The treatment consisted of streptomycin 750 mg., I.N.H. 3 X 100 mg., P.A.S. 3 X 1000 mg. daily. Oral erythromycin 4 X 200 mg. and intramuscular garamycin 2 X 20 mg. were added for ten days followed by one capsul vibramycin a day during the next two weeks. Glisson head traction was performed using 100 mg. traction during the first few days, later on using 2400 gm.

After two months of treatment a chest X-foto was taken without improvement of the lungs. Tuberculos-tatics were changed into Ethambutol 350 mg. and I.N.H. 3 X 100 mg. daily. Two months later improvement in the chest roentgenogram was observed, also the destructive lesions of the radius and ulna showed good healing.

Neurological re-examination revealed also improvement, there were

only increased tendon reflexes. Physical and laboratory findings were also improved.

Now the cervical spondylitis remained a problem. The roentgenograms of the destructive cervical spine after three months of treatment revealed no definite improvement, so that surgical approach was considered. A few days prior to operation Minerva jacket was applied in order to transport the patient to another hospital with complete orthopaedic surgery facilities.

On September 15, 1971 the operation was carried out under general anaesthesia using an endotracheal tube. Procedure of the operation was according to the method described by Hodgson and Stock (1965). Centerolateral approach to the cervical spine with collar incision was done. Grafts were cut from the iliac crest to fit into this increased space and introduced into the cervical spine. No method of fixation was required and the grafts were firmly in bedded between the vertebral bodies. After operation collar splint was applied for about six weeks to prevent hyperflexion and hyperextension, later on no instrument was used to support her neck.

Mobilisation of the patient started two weeks after operation.

Discussion

In the majority of cases the diagnosis of tuberculous involvement

can be established base on positive tuberculin test and X-ray findings of the involved area in conjunction with the physical signs and symptoms.

In our case the improvement of the lung affection and destruction of the radius and ulna after introduction of secondary tuberculostatics made the diagnosis of tuberculous origin justifiable. The histological finding of the biopsy specimen of the lymph node in the neck mentioned earlier was also a support for the etiologic diagnosis. However, the displacement of the cervical spine even after head traction could not be corrected.

In carrying out the operation the centerolateral approach was used, because it was difficult to break through the oral cavity due to the smallness of the operation field.

Difficulties encountered during operation were how to reach the higher part of the cervical vertebrae, because adhesions and fibrous connective tissues were already present surrounding the vertebrae. To localize the lesion a marker was introduced and roentgenograms during operation were taken simultaneously.

At present the child can walk and play without any instrument to support her neck although a limitation on neck moving is still present (see figures 6, 7).

Acid-fast bacilli and specific cells from the destructed lesion obtained during operation were negative. This might be due to the long proper treatment prior to operation.

Summary

A case of a 12-year-old Chinese girl, suffering from spondylitis in the second and third cervical vertebral bodies has been reported. Tuberculosis as the etiologic agent was considered justifiable.

Centerolateral approach in carrying out surgery was performed.

Post operative follow-up a satisfactory result.

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FIG. 1 : *The C-1 and head were displaced anteriorly.*

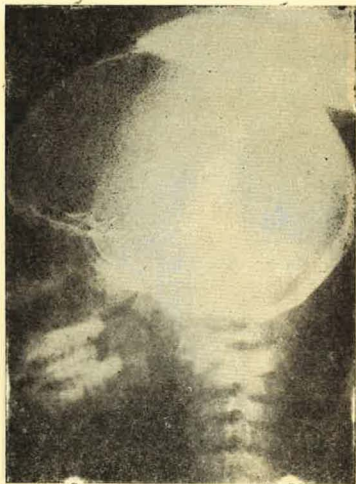


FIG. 2 : *After three months head traction
no definite improvement.*

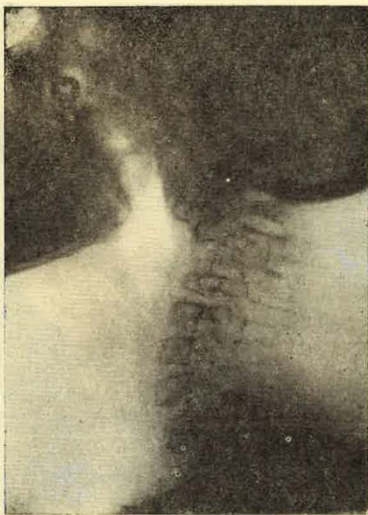


FIG. 3 : *Six months after operation, healing process was seen.*

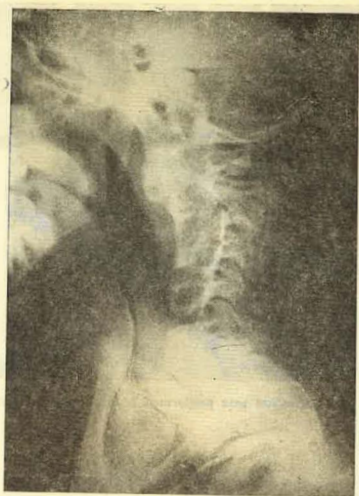


FIG. 4 : *One year after operation,
good results were obtained*



FIG. 5 : *Head traction was performed before surgical intervention.*



FIG. 6 and 7 : *The girl one year after operation. A slight limitation on neck movement is still present. no instrument was needed to support her neck.*

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