Title	A Rare Case of a Solitary Bone Cyst of the Patella
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症　　例

A Rare Case of a Solitary Bone Cyst of the Patella

by

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Solitary bone cyst, first described by VIRCHOW in 1876, is not an uncommon lesion. The lesion is almost always located in the shaft of some long tubular bone[7]. LODWICK[10] stated that seventy-five per cent of all cysts were found in either of humerus and femur. Tibia, fibula, radius, and ulna are the sites of occasional involvement. As to still other localizations, calcaneus[14], rib, and ilum are encountered as the site of occurrence. There is only one report in the literatures which described of a solitary bone cyst originated in the patella[4].

Case Report. A girl of seventeen-years-old complained of occasional slight pain in the right knee joint. The pain increased gradually and eight months after the onset of joint pain she came to our hospital. She had never experienced the injury of the knee joint. Muscle atrophy of moderate degree was observed in right thigh. Motions of the knee joint were in full range. Radiographic examination (Fig. 1) revealed cystic radiolucent area which occupied the proximal two thirds of the right patella. The size and

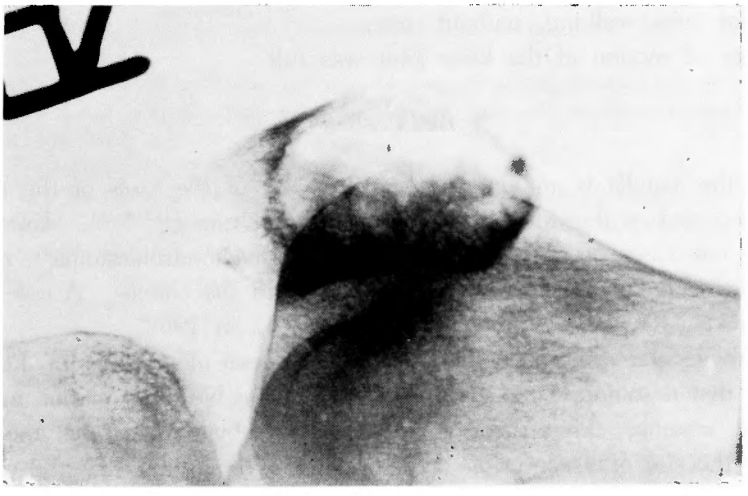

Fig. 1. Roentgenogram of the right knee joint shows the cystic radiolucent area which occupies proximal two thirds of the patella.

contour of the patella were normal. Laboratory studies showed normal results. A radiographic skeletal survey revealed no other bone abnormality. A patellectomy was performed on June 15, 1965. The patella was removed intact by sharp dissection through its tendinous attachments. Cartilaginous surfce of the patella and of the femoral condyles were normal. When the patella was sectioned brownish sangineous fluid escaped from its cystic interior. Inner surface of the cyst was covered with thin, connective-tissue-like membrane. The cyst was divided into two compartments by a soft fibrous membrane. Bony element of the patella was very thin, however, there was no evidence of cortical destruction (Fig. 2). Microscopic examination (Fig. 3) : The thin cortical wall was found composed of rather loose osseous tissue with dilated capillary vessels in it. On the wall of the cyst osteoblasts and osteoclasts were found. The lining membrane was consisted of connective-tissue cells. There was no manifestation of multinuclear giant cells.

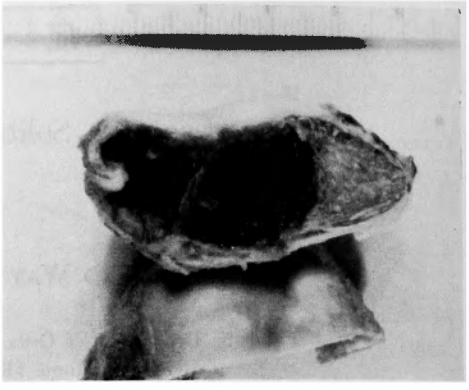

Fig 2. Gross specimen of the patella.

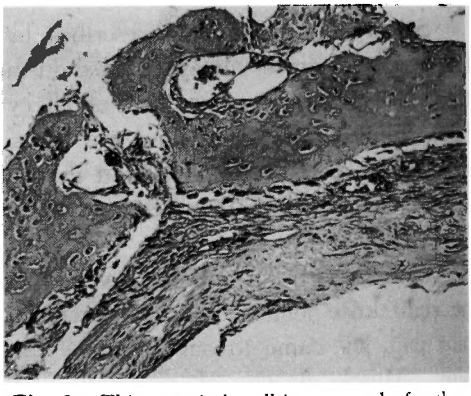

Fig. 3. Thinn cortical wall is composed of rather loose osseous tissue with dilated capillary vessels. The lining membrane is consisted of connective-tissue cells. There is no evidence of multinuclear giant cells.

The histologic diagnosis of a solitary bone cyst was subsequently confirmed by the pathologist of the Department of Pathology, Kyoto University Medical School.

When examined four months after operation, the patient was walking without pain. The active range of motion of the knee joint was full.

DISCUSSION

Tumor of the patella is an unusual lesion. Most of the cases of the tumor of the patella which reported in the literatures were giant cell tumor[1)2)8)15)]. Except giant cell tumor only a few cases of fibrous dysplasia[12)], benign chondroblastoma[3)], reticulum cell sarcoma, and osteogenic sarcoma[5)] have been observed in the patella. A case of a solitary bone cyst of the patella was first reported by CUNEO L. in 1962.

There is no general agreement about the pathogenesis of the lesion. POMMER[13)] expressed a view that a solitary bone cyst results from the bleeding in the marrow cavity caused by mild trauma. This theory is contradicted by the fact that there is no cyst development at the site of a contusion or a fracture of bone and that the most common site of the bone cyst—upper part of the humerus—is a site less exposed to the trauma than the bones in knee joint and ankle joint. KONJETZNY[9)] suggested that the bone cyst

showed "healing process of giant cell tumor or osteitis fibrosa localisata". However, JAFFE and LICHTENSTEIN[6] opposed to this idea that giant cell tumor appears at a definitely later age, on the average, than solitary bone cyst and that a giant cell tumor nearly always starts in an epiphysis, while a solitary bone cyst nearly always starts in a metaphysis and only rarely transgresses into the epiphysis. They favored the view proposed by MIKULICZ[11] that the lesion had its basis in a local disorder of development and bone growth. Indeed, the histologic appearances of a solitary bone cyst does not correspond to that of a giant cell tumor. It seems to us that this conception for pathogenesis of a solitary bone cyst, local disturbance in bone growth and development, had much in its favor.

The treatment of choice is curettage and bone graft. Radiation therapy is not recommended.

SUMMARY

A rare case of a solitary bone cyst of the patella was reported. Discussion was performed on the pathogenesis of the lesion.

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和文抄録

膝蓋骨孤立性骨嚢腫の稀有なる1例

田附興風会医学研究所北野病院整形外科（指導：佐藤愛二部長）

佐藤愛二，渡辺 良，西島 裕

症例：17才女子，8ヵ月前から徐々に右膝関節痛を来たす様になり来院した．右下肢筋萎縮およびレ線像で右膝蓋の近位2/3の嚢腫様変化を認めた．

本例は膝蓋骨全摘術を行なつたが，標本の割面では近位2/3が嚢腫様に変化し，暗赤色の血液様の液体を容れていた．骨皮質は薄いが膝蓋骨の形および大きさは正常であつた．組織学的には嚢腫壁に Osteoblast, Osteoclast 毛細管増生などがみられた．多核巨細胞は認められなかつた．

以上の所見より本例を膝蓋骨の孤立性骨嚢腫と診断した．

膝蓋骨の腫瘍は極めて稀なものであるが，近年我国でも2,3の報告がみられる．その大部分は巨細胞腫であり，本報告例の診断に当つても巨細胞腫との鑑別に殊に意を用いた．

本論文の要旨は第25回中部日本整形外科災害外科学会において発表した．