Case 367

4. Ossifying fibroma or 5. Non-ossifying fibroma

【Progress】

He is scheduled to be under a follow-up examination using radiograph and palpation by our orthopedist.

【Discussion】

Non-ossifying fibroma is reported to occur in 30% of the teens, though no data on its incidence of healthy teens is found using radiograph (1- 4). This is simply because non-ossifying fibroma go away as ages advance. Interestingly, the term of non-ossifying is used for this disease, it gradually deposits calcification or ossification from its margin, finally leading normal bone, hence, called 'don't touch lesion'. Actually, according to Ritschl's classification is categorized into Stage A to D (2, 3): Stage A, Eccentric lesion in bone cortex which is small, oval to slightly polycyclic in shape without a sclerotic border. Stage B: Lesions with variable distance from the epiphysis with polycyclic shape and thin but clearly sclerotic borders; no periosteal reaction. Stage C: Lesions with properties similar to stage B but with also exhibit increasing sclerosis, which typically start from the diaphyseal side. Stage D 1–3: Complete homogeneous sclerosis of the lesion (D1), disappearing lesion (D2) and disappearance of the lesion (D3). In cases of encountering non-ossifying fibroma of Stage C or greater, the term of non-ossifying might not be appropriate.
In our case, radiograph and lower limb CT depict a lesion with cortical thickness of diaphysis of tibia, indicative of non-ossifying adenoma, Stage D.
As differentiating diagnosis, exostosis, osteoma, cortical irregularity, and osteo-fibrous dysplasia are listed (6, 7). Exostosis composes of osseous laminar and extrudes from bone surface. Osteoma also extrudes from cortical surface composing of osseous mass (osteochondroma includes osseous mass plus cartilage component caps). Cortical irregularity, cortex thickness, occurs at adhesion site of major muscle. Femoral cortical irregularity occurs at halting site of gastrocnemius muscle at posterior lower site of femoral bone. Osteo-fibrous dysplasia is reported to be similar with adamantinoma histologically and fibrous dysplasia. Fibrous dysplasia histologically composes of stroma formed by fibroblast without no osseous mass by osteoblasts. Osteo-fibrous dysplasia composes of stroma with margin osseous lesion. Osteo-fibrous dysplasia also is reported to go away as time advances though it includes aggressive type that needs surgical cottage. The differentiation of non-ossifying adenoma from natural go-away osteo-fibrous dysplasia is controversial. Osteogenic osteosarcoma that is characteristic of osseous membrane response, necrosis and intralesional small calcification was excluded because of being of devoid of these findings.

Our patient is not recommended to receive biopsy because of possibility of naturally go-away process, imaging diagnosis is non-ossifying adenoma of Stage D or osteo-fibrous dysplasia of natural go-away case.

【Summary】

We presented a fifteen-year-old male with bone extrusion of right tibia that had realized unknown yeas ago. Radiograph and CT of lower limb showed localized thicken cortex of tibia. It is borne in mind that non-ossifying fibroma is a go-away disease whose radiographic characteristics start from cystic formation in bone cortex and gradually enlarge from metaphysis move to diaphysis and deposit marginal calcification from metaphyseal site to homogeneous ossification, leading healthy bone. Exostosis (osteoma), osteo-fibrous dysplasia, cortical irregularity are listed for differential diagnosis.

【References】

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