Osteopathia Striata with Cranial Sclerosis:

. 2. 2

```
(Osteopathia striata with cranial sclerosis)
                                 10
                                                   31
             (osteopathia striata,
                                      OS)
                                                                                                                    6
                          (metaphysis)
                                                                                (patent ductus arteriosus, PDA)
(longitudinal striation)가
      (1).
                                (cranial sclerosis)
                                                                                       가
                                      (osteopathia striata
                          OS-CS)
with cranial sclerosis,
                                                      OS
                              (1, 2). OS
                                       가
                                                              (Fig. 1A). OS
OS-CS
                           (1-4). OS-CS
                                                                                                       (Fig. 1B).
               (macrocrania),
                                         (frontal bossing),
                                                                                                             (iliac crest)
          (hypertelorism),
                                      (nasal ridge),
                                                                              (Fig. 1C).
                                                                (anterior fontanelle)
                                                                                           가 10
                                                 OS가
                                                                                                                   (Fig.
                                  (skeletal survey)
                                                              1D).
                                                                                     (computed tomography,
                                                                                                                 CT)
                                                                                           가
                                                                                                         (Fig. 1E).
              OS-CS
                                                                 (palatine bone)
                                                                                                     (vomer)
                                                                       가
                                                                가
                                                                                    (cranial foramina)
             가
  10
             37
                                                                     2
                                                                31
                                                                              가
                                                                                          (unerupted tooth)
       2.9 kg
                                   가
                                                                                                              가
         2006 10 29
                               2006 12 18
```

293

```
가
(Fig. 2A).
                                                                가
                                                                                                         (transmission
                  (Fig. 2B),
                                 СТ
                                                      가
                                                                                                        가
                                                                                           2
                                                             type)
                 (Fig. 2C).
                                                               OS
         (Fig. 2D-F).
                                                                                                                  6
                                                                             가
                                                                                              (trabeculae)
 OS
                                                                                      (5-7).
                    가
가
                                                                                                                 가
                          (isolated form)
                                                                              (2, 8).
                                                                                          2
             (OS-CS)
               (1, 2). OS가
                                                                    가
       OS-CS
                                 (autosomal dominant)
                                                                                가
                                                                                              (symphalangism),
                                    (X - linked dominant
                                                             (polydactyly)
                                                                                      (clinodactyly)
                                                                                                             (3, 9).
                       가
inheritance)
                              (1, 4).
```

Fig. 1. Patient 1. A 10-month-old girl.

A. Magnified view of the ribs show sclerotic lines along the axis of ribs(arrows).

В

- B. Vertically running sclerotic lines are seen at the metaphyseal ends of both femora and tibiae(arrows).
- C. Pelvis shows vertical and fan-shaped sclerotic lines on both iliac crests(arrow).
- D. Skull shows macrocrania and widely opened anterior fontanelle.

Note sclerosis at the orbital roof, nasal bridge, maxilla and mandible.

E. CT scan with bone setting attenuation shows sclerotic widening of basal skull and vomer of the nasal bone.

E

가 (optic foramen) (4, 9), (hydrocephalus), (cortical atrophy), (corpus callosum (vascular entrapment) (2, agenesis) (2-4).6). OS-CS (2, 가 3, 10). 2 (2-5, 8). (macrognathia) , OS-CS (2, 3, 5, 7). СТ (R)

Fig. 2. Patient 2. A 31-year-old male.

A. Skull lateral view shows diffuse sclerosis of the calvaria, particularly at the occipital protuberance. Maxilla and mandible are remarkably thickened and sclerotic.

- B. Chest radiograph shows mild sclerosis with widening of medial ends in both clavicles.
- C. Chest CT confirms sclerotic widening of the clavicular ends.
- D. Note linear sclerotic lines along the metaphyseal ends of both tibiae and fibulae(arrows).
- E. Thickened sclerotic lines are seen at both distal radii, ulnae and phalanges(arrows).

- Konig R, Dukiet C, Dorries A, Zabel B, Fuchs S. Osteostriata with cranial sclerosis: variable expressivity in a four generation pedigree. Am J Med Genet 1996;63:68-73
- 3. Pellegrino JE, McDonald-McGinn DM, Schneider A, Markowitz RI, Zackai EH. Further clinical delineation and increased morbidity in males with osteopathia striata with cranial sclerosis: an X-linked disorder? *Am J Med Genet* 1997;70:159-165
- 4. Viot G, Lacombe D, David A, Mathieu M, de Broca A, Faivre L, et al. Osteopathia striata cranial sclerosis: non-random X-inactivation suggestive of X-linked dominant inheritance. *Am J Med Genet* 2002;107:1-4

- Winter RM, Crawford Md 'A, Meire HB, Mitchell N. Osteopathia striata with cranial sclerosis: highly variable expression within a family including cleft palate in two neonatal cases. Clin Genet 1980;18:462-474
- Ward LM, Rauch F, Travers R, Roy M, Montes J, Chabot G, et al. Osteopathia striata with cranial sclerosis: clinical, radiological, and bone histological findings in an adolescent girl. Am J Med Genet 2004:129:8-12
- Nakamura K, Nakada Y, Nakada D. Unclassified sclerosing bone dysplasia with osteopathia striata, cranial sclerosis, metaphyseal undermodeling, and bone fragility. Am J Med Genet 1998;76:389-394
- Nakamura T, Yokomizo Y, Kanda S, Harada T, Naruse T. Osteopathia striata with cranial sclerosis affecting three family members. Skeletal Radiol 1985;14:267-269
- Clementi M, Bellato S, Rossetti A, Mammi I, Tenconi R. Is visual field reduction a component manifestation of osteopathia striata with cranial sclerosis? Am J Med Genet 1993;46:724-726
- Luerssen K, Ptok M. Osteopathia striata with cranial sclerosis and hearing loss. Eur Arch Otorhinolaryngol 2006;263:123-126

J Korean Radiol Soc 2007;56:293 - 296

Osteopathia Striata with Cranial Sclerosis: Report of Two Cases¹

Nae Jung Rim, M.D., Ok Hwa Kim, M.D., Kyung Jin Seo, M.D.², Young Seok Lee, M.D.²

¹Department of Diagnostic Radiology, College of Medicine, Ajou University ²Department of Radiology, College of Medicine, Dankook University

Osteopathia striata with cranial sclerosis is a very rare sclerosing bone dysplasia that is characterized by the radiological appearance of longitudinal striations at the metaphysis of the long bones associated with cranial sclerosis. Here, we report a 10-month-old female infant and a 31-year-old male, who were diagnosed incidentally by showing longitudinal sclerotic lines symmetrically in the long bone ends and basal sclerosis of the cranium. The diagnostic linear striation was found not only in the long bones but also in the ribs and phalanges, which are very rare sites for striation. We discuss the radiology findings of osteopathia striata with the possible complication of cranial sclerosis.

Index words: Bones, dysplasia
Bones, sclerosis
Infants, skeletal system
Bones, abnormalities

Address reprint requests to: Ok Hwa Kim, M.D., Department of Diagnostic Radiology, Ajou University College of Medicine, Woncheon-dong, Youngtong-gu, Suwon 443-721, Korea.

Tel. 82-31-219-5828 Fax. 82-31-219-5862 E-mail: kimoh@ajou.ac.kr