



Cervical digits: a report of 3 cases

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The occurrence of digit like structures around vertebral column is a rare and only one case in the cervical region has been reported before. Here we report three more cases of cervical digits with computed tomography and magnetic resonance imaging correlations as the first cases of the literature.

Keywords: Cervical digit; phalanx like structures.

Bony anomalies which develop in the soft tissues around the vertebral column and include a cortex are very rare and radiologically appear similar to ribs or digits.^[1,2] Most of the digit- or phalanx-like structures are seen within the pelvis;^[3–6] to our knowledge, only a single case of a phalanx-like structure was reported in the cervical region.^[7]

Here we report 3 cases of cervical digits with computed tomography (CT) and magnetic resonance imaging (MRI) correlations as the first such cases in the literature.

Case report

Case 1 – A 51-year-old man was admitted to the outpatient department of orthopedics presenting with neck pain that was not affected by neck motion. His clinical examination was unremarkable. Radiographs revealed 3 short tubular bones with joint spaces behind C4–C5 vertebrae in soft tissues (Figure 1a), and proton density paracoronal magnetic resonance imaging (MRI) showed the same bones in midline soft tissue (Figure 1b). The

patient responded well to non-steroidal anti-inflammatory drug (NSAID) treatment and was pain-free at the latest follow-up, 7 years after initial presentation.

Case 2 – A 54-year-old male was referred to our clinic presenting with neck and shoulder pain. Physical examination was unremarkable, and cervical lateral radiogram showed 4 short tubular bones of varying sizes revealing cartilage tissue between them (Figure 2a). Proton density 3D gradient echo thin section MRIs produced similar results, showing the same bones in varying sizes revealing cartilage tissue between them (Figure 2b). The patient was treated with NSAIDs and experienced occasional pain 6 years after the first presentation.

Case 3 – A 54-year-old man was referred to the emergency department presenting with neck trauma. Radiographs showed cervical digits behind C5–C6 vertebrae; however, the 3 bones were not in alignment (Figure 3a). Proton density 3D echo thin section MRIs showed no articular tissue between the bones (Figure 3b). The patient was treated with NSAIDs and cervical collar and

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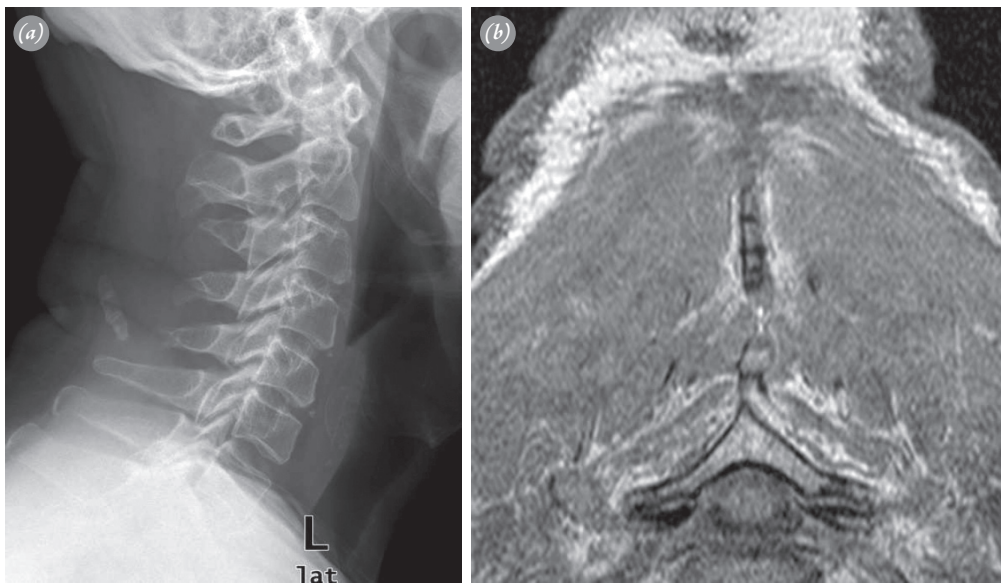


Fig. 1. (a) Cervical lateral radiogram shows 3 short tubular bones with joint spaces behind C4–C5 vertebrae in soft tissue. (b) Proton density paracoronal MRI shows the same bones in midline soft tissue.

was asymptomatic at 2 months post-trauma. All patients were informed regarding publication of their cases, and all gave written consent.

Discussion

Heterotopic digits remain anatomic curiosities.^[6] Al-

though most of them are seen near the pelvis,^[1,3–7] careful review of the literature revealed a single case of cervical phalanx.^[7] In the present study, we report 3 cases with varying features. First, contrary to Atalar et al.,^[7] our cases had 3–4 bones with pseudo-articulations between them (Figures 1–3). Although 4 cases

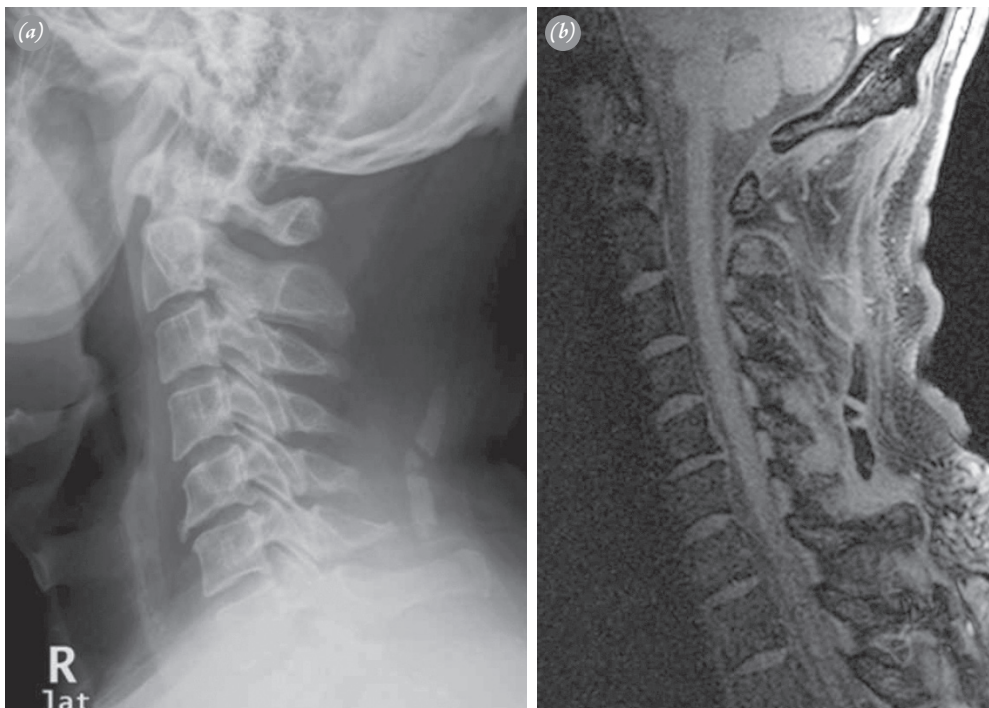


Fig. 2. (a) Cervical lateral radiogram shows 4 short tubular bones in varying sizes, revealing cartilage tissue between them. (b) Proton density 3D gradient echo thin section MRI shows the same bones in varying sizes, revealing cartilage tissue between them.

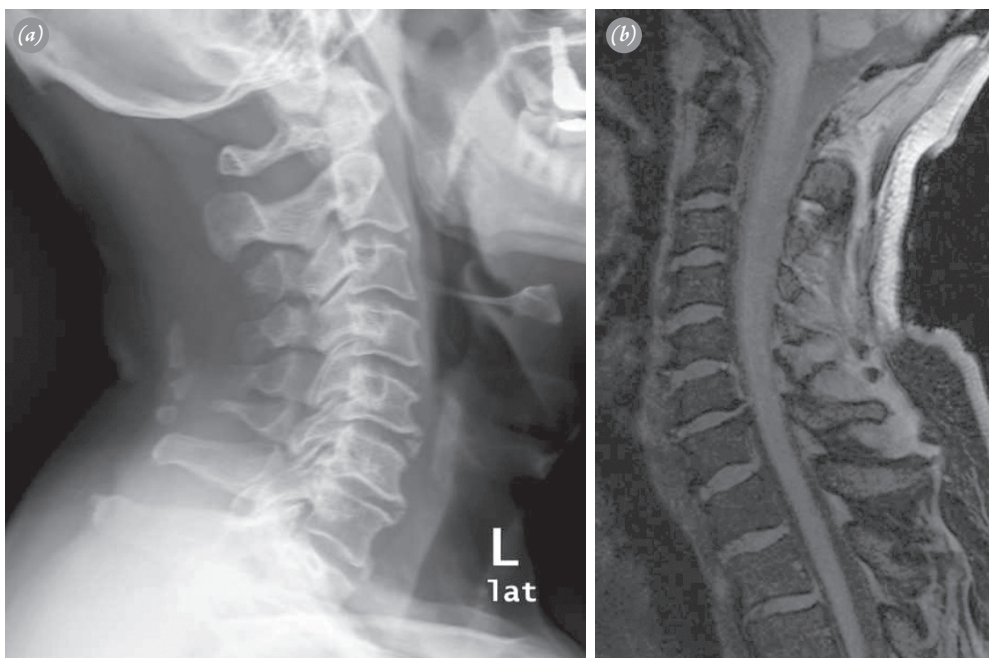


Fig. 3. (a) Cervical lateral radiogram shows 3 short tubular bones behind C5–C6 vertebrae in soft tissue. Note the deviation of the axis of the middle bone. (b) Proton density 3D gradient echo thin section MRI reveals 2 short tubular bones behind C5–C6 vertebrae in soft tissue. However, no cartilage was shown between the bones.

reported in 3 articles^[3–5] had 2–3 pseudo-articulations in the cases of pelvic digits, none displayed a joint with cartilage. Thus, Case 2 of the present study is the first in such a manner (Figure 2). This may be due to a previous trauma, as it is well known that under proper stimulation, pluripotentiality of the mesenchymal stem cell may differentiate and produce cartilage.^[8] However, such a theory fails to explain the formation of 2–3 joints simultaneously. Additionally, 1 case (Case 3) of the present study reveals an unusual characteristic. The axes of the bones on the lateral radiogram are not aligned: there is a deviation in the axis of the middle bone (Figure 3a), so all 3 bones cannot be shown in a single MRI section (Figure 3b). Since this is the only case with acute trauma, the deviation of the bone may be traumatic in nature. Differential diagnosis includes myositis ossificans, heterotopic bone formation, fibrodysplasia ossificans, and osteochondroma. Nonetheless, absence of previous trauma and radiographic appearance exclude these possibilities and strongly suggest a congenital anomaly.

In conclusion, it is important to recognize such bony anomalies as incidental findings, to avoid further diagnostic investigation, and to recognize that cervical digits are asymptomatic and the symptoms of the patients are

likely due to other problems. Trauma to these bones may be the only exception.

Conflicts of Interest: No conflicts declared.

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