



## Extremely Proximal Common Carotid Bifurcation *Aşırı Proksimal Yerleşimli Common Karotid Arter Bifurkasyonu*

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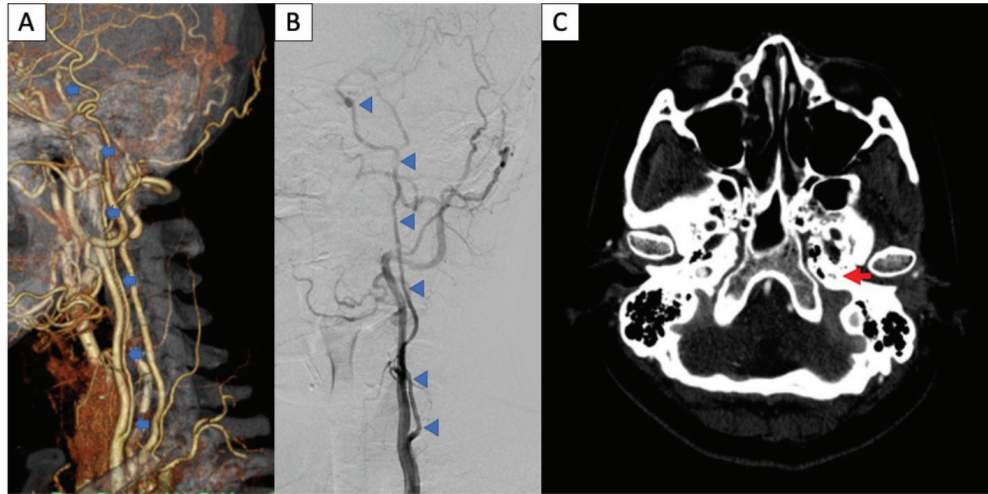
**Keywords:** Common carotid bifurcation, proximal, low-lying, hypoplastic internal carotid artery, left

**Anahtar Kelimeler:** Common karotid arter bifurkasyonu, proksimal, alçak yerleşimli, hipoplastik internal karotid arter, sol

Dear editor,

A 45-year-old Japanese woman was admitted to the hospital with a headache. Incidentally, an asymptomatic vascular anomaly was revealed. A left common carotid bifurcation was detected at the C7 level on the computed tomography angiography

(Figure 1A) and digital subtraction angiography (Figure 1B), and its location was extremely proximal. The carotid canal on the left side (red arrow) was smaller than that on the right side (Figure 1C). The left internal carotid artery was hypoplastic and traveled the normal route. This suggested that it was a hypoplastic true internal carotid artery. The left middle cerebral artery was



**Figure 1.** (A) On the computed tomography angiography, the left internal carotid artery originates posterior at a height of C7 (blue arrows). (B) On the digital subtraction angiography, the left internal carotid artery is narrow and travels a normal route (blue arrowheads). There is no stump or other evidence of remnants at the normal height of the internal carotid artery. Leptomeningeal anastomosis was observed from the recurrent meningeal artery to the left middle cerebral artery region. (C) The left carotid canal is narrower (red arrow) than the right side

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narrow, and the peripheral area was perfused via anastomosis. She had no family history of other skeletal or vascular anomalies. Klippel–Feil syndrome is known to cause the proximal location of common carotid bifurcation, but the patient had no relevant clinical findings. Although there are racial differences, the position of the bifurcation of the common carotid artery has been located around the C3 level in Japanese people (1). A low bifurcation of the common carotid artery has been shown to be associated with the persistence of the ductus caroticus, which is a segment of the dorsal aorta that connects the third and fourth aortic arches (2). It disappears with development and is not involved in normal blood vessel formation. There has only been one case of internal carotid artery hypoplasia on the right side (3). This is the first case of internal carotid artery hypoplasia on the left side and is important for blood vessel development. Anatomical knowledge of the common carotid artery bifurcation is essential for carotid endarterectomy and other invasive procedures.

#### Ethics

**Informed Consent:** The patient's consent was obtained for this study.

**Peer-review:** Externally and internally peer-reviewed.

#### Authorship Contributions

Surgical and Medical Practices: Y.K., T.M., Data Collection or Processing: Y.K., T.M., Analysis or Interpretation: Y.K., T.M., Literature Search: Y.K., T.M., Writing: Y.K., T.M.

**Conflict of Interest:** No conflict of interest was declared by the authors.

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