INTRODUCTION
Basilar artery is located anterior to the pons in the pre-pontine groove. Any abnormality could cause harm to the brainstem and posterior cerebral arteries territories. This case will provide a new finding related to this topic.

CASE REPORT
A 86-year-old male patient started to have chronic headaches in 2013. A computed tomography (CT) scan was done for him that showed a calcified curved basilar artery, but due to his age (atherosclerosis changes in arteries), it was considered normal [Figure 1]. The basilar artery is not in the normal location in the prepontine groove, but it crosses from the left side to the right side of the pons [Figure 2]. In 2018, he went to the hospital for another head CT scan, and the same normal findings were found, but it was not reported [Figure 2]. In 2020, the patient came to the hospital with the same claims, and a CT scan was done, which revealed the same findings [Figures 3-5]. A magnetic resonance imaging (MRI) scan for the brain was requested, which revealed a giant curved calcified basilar artery [Figures 6-9]. The artery cross from the left side of the pons to the right side then passes anteriorly to the midbrain to cross to the left side of the brain to join the circle of Willis in a rare fashion. The calcification is really giant that extend from the vertebral arteries until the basilar artery joins the circle of Willis. The entire length of the basilar artery is calcified. When a CT scan performed, it was done without any contrast media, but the scan appeared as if the patient was injected with contrast media intravenously. The artery does not make any bifurcation, but the artery joins the circle of Willis on the left side [Figures 3 and 10 ].

DISCUSSION
It is well known in medical practice that there are cases such as trigeminal neuralgia and glossopharyngeal neuralgia, but a calcified artery with anatomical variations (curved and not in normal location) that can cause chronic headache is uncommon. The calcification may be a result of atherosclerosis and the aging process. The curvature of the basilar artery could be caused by calcification which created the anatomical variation (curved artery out of the normal

Address for correspondence: Abdulwahab Alahmari, Department of Radiology, Al-Namas General Hospital, Ministry of Health, Al-Namas City, Asir Province, Saudi Arabia

© 2020 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.
Figure 1: Computed tomography scan (in 2013) for the brain shows curved basilar artery (brain window).

Figure 2: Computed tomography scan (in 2018) for the brain which shows a calcified basilar artery (brain window). The scan was affected by beam hardening artefact.

Figure 3: Computed tomography scan (in 2018) for the brain shows the basilar artery join the circle of Willis on the left side without making a bifurcation (brain window).

Figure 4: Computed tomography scan (in 2020) for the brain which shows the calcified basilar artery (brain window).
Figure 5: Computed tomography scan (in 2020) for the brain which shows the calcified basilar artery (Hounsfield Unit = 83 and bone window)

Figure 6: Magnetic resonance imaging T1 scan (in 2020) for the brain which shows the beginning and the diameter of the basilar artery at the pontomedullary junction

Figure 7: Magnetic resonance imaging T1 scan (in 2020) for the brain which shows the basilar artery out of the prepontine groove and crossing from the left side to the right side

Figure 8: Magnetic resonance imaging T1 scan (in 2020) for the brain which shows the cross of the basilar artery from the left side to the right side

Figure 9: Magnetic resonance imaging T1 scan (in 2020) for the brain which shows the basilar artery crossing to the center
The curved artery is an anatomical variation that occurs in many arteries such as the carotids or any part of the circle of Willis.\textsuperscript{[1,2]} The cutoff value of Hounsfield Units (HU) in a hyperdense basilar artery is 46.5 HU.\textsuperscript{[3]} Some suggest that the HU for a calcified artery is above 130.\textsuperscript{[4]}

**CONCLUSION**

The calcified curved basilar artery could be the cause of the chronic headache. This anatomical variation is caused by the calcification and the aging process. There are no clear criteria for calcified arteries and the criteria that available today are for specific arteries such as the carotid and coronary.

**REFERENCES**


**How to cite this article:** Alahmari A. Giant Curved Calcified Basilar Artery Causing Headache: A Case Report. Clin Res Neurol 2020;3(2):0-0.1-4.