

Normal jugular scans

The arterial system is pretty much the same from person to person compared to the venous system which appears to have a large number of variants to return blood to the heart. Here we show data from a series of 13 volunteers demonstrating that for the most part the major jugular veins are patent although sometimes the positioning of the arteries can compress the jugular veins somewhat and other times its compression may be related its location relative to the sternocleidomastoideus muscle. Here are a few examples of normal jugulars and putative normal variants.

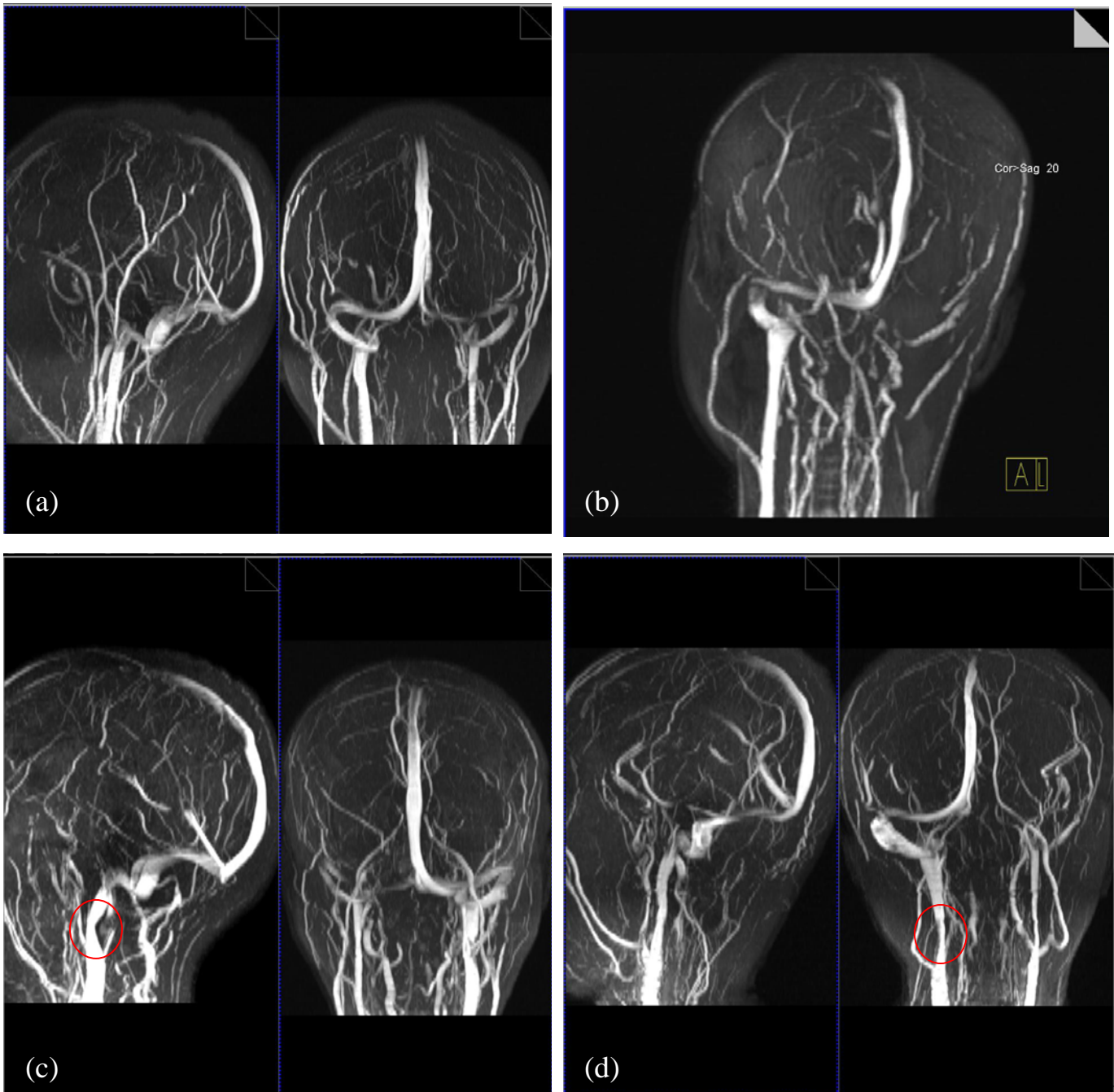


Figure 1: Example images of the jugular veins for four (4) normal subjects. Some people have both jugulars and some have a jugular base that accommodates the entrance of other veins taking over the role of the jugular. In Figure 1c and 1d, there appears a narrowing of the jugular.

The next test was to evaluate if the jugular structure would appear to change if the person had his head tilted significantly from side to side or up and down. The results below are for one person. For this individual there are some small variations in lumen but not major given the significant variation in position. Still, we would recommend a flat face forward positioning to ensure consistent results and if patients are rescanned later the same positioning should be used. Flow also changed by as much as 100% from one position to the next but never became reflux flow for example. Flows ranged from 3 to 6ml over the cardiac cycle.

