Atlas bridges, the bony outgrowths over the third segment of the vertebral artery are associated with compression of the artery and nerves. There are limited studies comparing morphometry of the complete atlas bridges and that of the ipsilateral transverse foramen. Bilateral and gender differences in the morphometry of the complete bridges remain relatively unexplored. One hundred and two atlas vertebrae (49 male and 53 female) obtained from the Osteology Department of the National Museums of Kenya were used for this study. The presence of complete posterior atlas bridge (retroarticular canal) and lateral bridge (supratransverse foramen) was noted. Measurements were taken for the diameters of foramina, and the ipsilateral transverse foramina and their areas calculated. Complete posterior bridges occurred in 14.6% and 13.6% on the right and left sides respectively. The lateral bridge was found in 3.9% of the cases on the right side only. The complete posterior bridges had a cross-sectional area of 23.44mm² on the right and 24.98mm² on the left side. The lateral bridges had a mean cross-sectional area of 27.30mm². The right and left transverse foramina had mean cross-sectional area of 36.30mm² and 37.20mm² respectively, which was significantly larger than that of the ipsilateral complete and posterior bridges. The smaller dimensions of the complete atlas bridges compared to the ipsilateral transverse foramen suggest that they may predispose to vertebrobasilar insufficiency, Barre-Lieou and cervicogenic syndromes due to compression of the contents in the foramina.