

Variant anatomy of renal arteries in a Kenyan population

Abstract:

Variant anatomy of renal arteries is important in renal transplant, vascular reconstruction, and urological procedures. The variations show ethnic and population differences. Data from Africans are scarce and altogether absent for Kenyans. **OBJECTIVE:** To describe patterns of origin, trajectories and branching of renal arteries in a Kenyan population. **STUDY DESIGN AND SETTING:** Descriptive cross-sectional study conducted in the Department of Human Anatomy, University of Nairobi. **MATERIAL/METHODS:** Three hundred and fifty six kidneys from 178 cadavers and postmortem specimens were used in the study. Aorta, renal arteries and kidneys were exposed by dissection. Number, trajectories, level of branching, number of branches and point of entry into the kidney were recorded. Data was analyzed using SPSS version 16.0, and presented using macrographs, tables, and bar charts. **RESULTS:** Additional arteries occurred in 14.3% of the cases. In 82.4% of these, there was one additional artery. Fifty nine point five per cent of the double renal arteries were parallel and 7.1% crossed. Of the 305 single arteries, 76.4% showed hilar, 21.6% prehilary and 2% intraparenchymal branching. In the hilar branching, ladder type was present in 65% and fork type in 35%. Bifurcation and trifurcation were present in 59.6% and 33.1% respectively. Polar arteries were present in 16.9% cases. **CONCLUSIONS:** Over 14% of the Kenyan population may have additional renal arteries while more than 20% show early branching. Several trajectories and hilar branching patterns exist which renal transplant surgeons and radiologists should be aware of to avoid inadvertent vascular injury.