Variant anatomy of sciatic nerve in a black Kenyan population

Abstract:

Knowledge of variant anatomy of the sciatic nerve is important in avoiding inadvertent injury during operations in the gluteal region and interpreting nondiscogenic sciatica. This variant anatomy may cause piriformis syndrome and failure of sciatic nerve block. The variations differ between populations but data from Africans is scarce. This study, therefore, investigated variations of sciatic nerve in a black Kenyan population. One hundred and sixty-four sciatic nerves from 82 cadavers of black Kenyans were exposed by dissection at the Department of Human Anatomy, University of Nairobi, Kenya. The level of bifurcation, relationship to piriformis, and topographic relations between the branches were studied. The results were analysed by SPSS version 16.0 and are presented by macrographs. In 33 (20.1%) cases division occurred in the pelvis, while in 131 (79.9%) it occurred outside the pelvis. A single trunk sciatic nerve exited below the piriformis muscle in 131 (79.9%) cases. In cases of pelvic division, the tibial nerve was always infrapiriformic, while the common peroneal nerve passed below piriformis in 16 (9.8%) cases, pierced the piriformis in 13 (7.9%), and passed above it in 4 (2.4%). For those in which division was extrapelvic, 110 (67.1%) were in the popliteal fossa, 17 (10.4%) in the middle third of the thigh, and 4 (2.4%) in the gluteal region. Where the division was pelvic, in 19 (11.6%) cases they continued separately, in 8 (4.9%) the two nerves reunited, and in 6 (3.7%) they were connected by a communicating nerve. The sciatic nerve in the Kenyan population varies from the classical description in over 30% of cases, with many high divisions, low incidence of piriformic course of common peroneal nerve, reunion, and unusual connection between common peroneal and tibial nerves. These variations may complicate surgery and interpretation of sciatic neuropathy. Preoperative nerve imaging and extra operative diligence in the gluteal region and the back of the thigh are recommended