Composite piriformis-sciatic nerve anomalies in the etiopathogenesis of piriformis syndrome and sciatica of non-discogenic origin: A case report & literature review

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The aim of the present study is to highlight the anomalous union of the pre & post axial division of sciatic nerve and its relation with piriformis muscle, all of which may play a role in etiopathogenesis of piriformis syndrome leading to sciatica of non-discogenic origin. During routine cadaveric dissection, variations pertaining to sciatic nerve branching pattern and piriformis muscle were found on two male cadavers. Hence, we systematically reviewed and analyzed the previously published literature to study the prevalence of piriformis and sciatic nerve anomalies in humans. A further review was conducted to determine the prevalence of anatomical abnormalities in surgical case series of patients suffering from piriformis syndrome. An unusual anatomical variation in the piriformis muscle and sciatic nerve was noted. Sciatic nerve division proximal to its entrance in the gluteal region was observed. The common peroneal component was passing through, and the tibial component was passing below a double piriformis muscle. Double piriformis muscles with two different arrangements of its two heads were also noted. It is extremely important to be aware of these variations while planning a surgery in the gluteal region as these nerves are more liable to be injured during surgeries. A detailed anatomical study of such variation aids in the understanding of increase in pain in various test positions. In sciatic neuropathies, level of sciatic nerve division plays a major role in the distribution of neurological deficits. Sciatic nerve division into tibial and common peroneal components at a higher level can result in manifestations pertaining to only one out of the two divisions in sciatic neuropathy. Description of such variations in relationship between sciatic nerve and piriformis muscle may be useful for diagnosis and treatment of piriformis syndrome and sciatica of non-discogenic origin. Attempted sciatic block at standard anatomical landmark may fail due to the anomalous union of the pre & post axial division of the sciatic nerve.

Neuropathic pain in cancer patients

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Neuropathic pain is prevalent in many cancer patients. Clinicians have found treating neuropathic pain challenging especially with minimal research specifically evaluating treatment of neuropathic pain in cancer patients. This retrospective chart analysis was done to see which therapeutic options were most effective in treating neuropathic pain in cancer patients within a 72-hour period from the beginning of the intervention. A retrospective chart analysis was done using the hospital database of pain management consults. It was determined that the pain was neuropathic in nature. Follow up consults were reviewed to determine if the patient felt their pain was alleviated and what medications were used. Of the 495 patient databases, 42 patients were found to have neuropathic pain. Thirty-eight percent required only opioids for neuropathic pain related to a cancer diagnosis, while more than half of the patients required both opioids and neurotransmitter modulators. In cancer patients who had neuropathic pain resistant to opioids such as morphine or hydromorphone, methadone was useful. As the literature has supported, this chart analysis found the best single agent treatment option for neuropathic cancer pain was an opioid. There was variability in the approach used for pain control, but using both neurotransmitter modulators and opioids combined was superior. This is unique to neuropathic pain related to cancer given that neuropathic pain secondary to other etiologies responds more effectively to neurotransmitter modulators and are less responsive to opioids. To achieve effective pain control there may be utility in creating an algorithmic approach specific to neuropathic cancer pain.