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## Microscopic Anatomy of Traumatic Neuroma: A Light and Electron Microscopy Studies

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An important complication that can arise from nerve injury is the formation of neuroma. Neuroma is described as a post-traumatic phenomenon in the form of a non-neoplastic disorganized bulbous enlargement that develops at the end of a severed peripheral nerve or at the site of a nerve in continuity. This structure is extremely sensitive to touch and may give rise to excruciating pain. The aim of this study was to analyze the microscopic anatomy of traumatic neuroma in a mammalian peripheral nerve with a long term view of improving nerve repair methods. Sciatic nerves of adult rats were transected unilaterally at mid-thigh region and 5mm segment of the nerve removed. Then, each transected ends were re-anastomosed under tension to generate neuroma for our study. Our study showed that by day 10, disorganized mass of axonal sprouts and Schwann cells formed the main components of the neuroma at the surgical site. On the other hand, examination of proximal and distal zone of the neuroma shows degradation of the myelin. From this study we can conclude that the cellular alteration occurred following traumatic neuroma may misdirect regenerating axons by creating physical barrier which can impair recovery of the target structure.