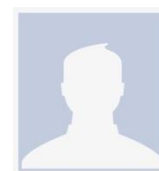


Mechanoreceptors in collateral knee ligaments



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Abstract (Word limit 600)

The mechanoreceptors in the collateral ligaments of the knee joint in rat hindlimbs were studied. In group II ($n=10$) the femoral and obturator nerves were sectioned. In both groups III and V ($n=20$) the sciatic nerve was sectioned. In group V ($n=10$) the sectioned sciatic nerve was sutured 4 weeks after sectioning. In group IV ($n=10$) all three nerves were sectioned. Group I ($n=10$) served as control. After 4 months all animals were killed. The ligaments of the knee joint were preserved and stained with gold chloride, paraffin-embedded and cut in sagittal serial sections. The results showed that 4 months after partial or total denervation of the limb, there was necrosis and a decrease in the number of mechanoreceptors, which was dependent upon the severity and site of the lesion. After suture of the sciatic nerve the increase in mechanoreceptors suggested a regenerative process.

Biography (Word limit 200)

Contreras –Rodríguez has completed his studies in Unit of Histology and Biopathology

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About Institution (Word limit 200)

The Autonomous University of Barcelona (Catalan: Universitat Autònoma de Barcelona; IPA: [uniβərsi'tat əw'tonumə ðə βərsə'lonə], Spanish: Universidad Autónoma de Barcelona; UAB), is a public university mostly located in Cerdanyola del Vallès, near the city of Barcelona in Catalonia, Spain. As of 2012, the university consists of 57 departments in the experimental, life, social and human sciences, spread among 13 faculties/schools. All these centers together award a total of 85 qualifications in the form of first degrees, diplomas, and engineering degrees.



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Importance of Research (Word limit 200)

Mechanoreceptors work as transducers, converting physical energy expressed as tension into nervous. They play an important role in the control of movement, and provide information to the central nervous system when a joint is injured. The morphology and distribution of mechanoreceptors in the joint capsule been described in humans, and in animals. The presence of mechanoreceptors after ligament transection, in autologous tendon grafts, and in regenerated menisci have also been described. Zelena and Zarachova have shown reinnervation of the Pacini corpuscles after sciatic nerve damage in rats.

References (Limit 15-20)

1. Adler HJ, Komeda M, Raphael Y (1997) *Further evidence for supporting cell conversion in the damaged avian basilar papilla. Int J Dev Neurosci 15:375–385*
2. Andrews BL (1954) *The sensory innervation of the medial ligament of the knee joint. J Physiol 123:241–250*
3. Beresford WA (1990) *Direct transdifferentiation: can cells change their phenotype without dividing? Cell Differ 29:81–93*
4. Boyd IA (1954) *The histological structure of the receptors in the knee joint of the cat correlated with their physiological response. J Physiol 124:476–488*
5. Denti M, Monteleone M, Berardi A, Panni AS (1994) *Anterior cruciate ligament mechanoreceptors. Histologic studies on lesions and reconstruction. Clin Orthop 308:29–32*
6. Eguchi G, Kodama R (1993) *Transdifferentiation. Curr Opin Cell Biol 5:1023–1028*
7. Freeman MAR, Wyke BD (1967) *The innervation of the knee joint: an anatomical and histological study in the cat. J Anat 101:505–534*
8. Halata Z, Haus J (1989) *The ultrastructure of sensory nerve endings in human anterior cruciate ligament. Anat Embryol 179:415–421*