

Conservative Management of Contusion of the Genicular Neurovascular Bundle (Traumatic Prepatellar Neuralgia)

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Issuing from the integument in the prepatellar region, the genicular neurovascular bundle enters the prepatellar bursa at the middle of the lateral border of the patella.

Direct trauma to the anterior aspect of the patella may result in a persistent pain which has been described as typical of a toothache in character, or clinically similar to an electric shock in distress. It presents a history of intractable irritation to the patient.

The pathology involves a contusion of the neurovascular bundle of the patellar region and following trauma to the anterior aspect of the knee a transient prepatellar swelling presents clinically as subcutaneous edema.

Common clinical findings may involve a history in which a neuralgic pain develops within a few weeks following the trauma. This pain progresses in sensitivity to the point where the slightest stimulus, such as a light touch with much care, is excruciating. A point of tenderness localized over the middle of the lateral border of the patella is present and constitutes the location of the patellar neurovascular bundle. As the pain persists, the patient complains of functional problems, ranging from difficulty to inability, with kneeling, stair climbing, and similar genicular function. With the progression of time, in the absence of proper treatment, the nerve becomes fibrosed resulting in adhesion formation with the pathological effect of becoming lost in the substance of surrounding structures.

Conservative treatment may involve cryotherapy initially, p.r.n. for pain and edema. Cryotherapy may be in the form of refrigerant spray, or an ice pack. This may be substituted with contrast therapy, if correctly administered. If the trauma has been forceful but not sufficient impact to induce fracture, treatment may include rest, ice or contrast therapy, compression, and elevation of the extremity until the edematous effects are not clinically significant. In the unlikely event that symptoms continue, the application of pulsed lidocaine phonophoresis, 0.5 W/cm² x 5-7 minutes, is recommended. Should the lesion be too sensitive for such direct application, pulsed ultrasonic energy may be administered under water at the same dosage, p.r.n. for pain and edema. Should these efforts continue to result in a lesion recalcitrant to treatment after 4-5 days, interferential therapy may be applied with the cross section of the carrier frequencies located at the site of pain, or the neurovascular bundle, using 120 beat frequency and a milliamperage which will allow for the perfusion of the respective tissues with interferential current. The treatment selected must comply not only with the best choice of therapeutic modalities, but must also be adequately tolerated by the patient in order to achieve effective compliance.

In the unlikely event that the lesion remains intractable to treatment at this point, referral to an

orthopedic surgeon is recommended for injection or excision.

References

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