## Summary

Regional anaesthesia of extremeties isn't a new idea, in last centuries , extremeties were amputated after exposure of nerves and application of cocaine. Now regional anesthesia has gained a lot of popularity due to presence of new local anesthetics, improvement in block equipements and techniques.

Sciatic nerve is one of the most common nerves that are blocked. It's formed of branches of L4, L5, S1,2,3. It arises from sacral plexus a passes thorough the lower part of sciatic foramen in the gluteal region, it ends half way down the back of the thigh by dividing into common peroneal and tibial nerves. This division may occur at various levels.

Sciatic nerve block has many indications that could be concluded in lower limb surgeries below knee either as a sole technique or combined with femoral nerve block.The sciatic nerve block has many approaches; the posterior approach of Labat, the anterior approach and the lower approach,each of them acquire specific position .localization of the nerve has Several described methods, including fascial "pops," elicitation of one or more paresthesias, electrical stimulation, and field infiltration. More recently, direct imaging by ultrasonography, fluoroscopy,

computed tomography (CT), and magnetic resonance imaging (MRI) has been used. Although no definitive study has identified the best method for needle placement, generalities are possible

Many different local anesthetics may be use e.g. procaine, lidocaine, mepivacaine, Ropivacaine & Bupivacaine. They have many mechanisms of which can be concluded in ,with the concentration of local analgesic increase, the various activities of a nerve are progressively blocked, conduction velocity slows, and the refractory period lengthens and the firing threshold rises until finally the nerve becomes inexcitable. All these changes occur in a reversible manner without damage to the neural membrane or axon They may be used as plain or mixed together. Many drug additives could be used like bicarbonate, hyaliorindase, adrenaline, clonidine & ketamine. All anesthetics have toxicity that should be considered. Sedative drugs can be used with anesthetics

Complication of sciatic block are nerve injury which is a recognized complication of peripheral regional techniques. In a combined series, the frequency of neurologic complications after peripheral blockade was less than that seen with neuraxial techniques, and peripheral blockade was associated with pain on needle placement or injection of local anesthetic.Damage to the

sciatic nerve is followed by paralysis of the hamstrings and all the muscles of the leg and foot (supplied by its distributing branches); there is loss of all movements&sensations below the knee, except for an area along the medial side of the leg, over the medial malleolus and down to the hallux, which is innervated by the saphenous branch of the femoral nerve.., hematoma & toxicity of local anesthetics & additive drugs such as Epinephrine-related complications which includes local vasoconstriction and, following inadvertent vascular injection, ventricular arrhythmia. V. The use of epinephrine is indicated in pediatrics except in cases of PNBs where the regional blood is supplied by terminal arteries (digital or penile block) or where there is a poor blood flow (traumatic limb ischemia). Clonidine is another additive that can delay recovery following short surgical procedures because of its sedative property. In children, clonidine less than 2 µg/kg does not produce any hemodynamic side effects.