

Background

Carpal tunnel syndrome (CTS) encompasses all signs and symptoms related to compression of the median nerve in the carpal tunnel. Often idiopathic, it may be secondary to a traumatic, inflammatory, endocrine or hemodialysis pathology. In the hemodialysis patient, it most often sits on the side of the arteriovenous fistula (AVF) and often requires surgery. It is a short-term intervention that can be done on an outpatient basis, and can be done under general, local or regional anesthesia. But on this particular ground the peripheral nerve blocks find their place, with some particularities

Methods

Prospective study of hemodialysis patients admitted for CTS surgery in 2015. The parameters studied were:

- age, sex,
- block used,
- volume of local anesthetic (LA) used,
- success and complications.

Results

We included 9 patients (5 men and 4 women),

the mean age was 51 years [41,65].

The surgery was on the same side

of the arteriovenous fistula

in 5 cases (surgery without tourniquet).

The block performed was an axillary block (AXB) in 7 cases and two truncular blocks under ultrasound,

the average volume of LA was 21 ml,

the total success was in 8 cases and with sedation in one case.

We had Only one case of minor toxicity of LA, and one case of mechanical paresthesia.



Discussion

When the surgery of CTS is indicated, the gesture is performed opened or endoscopically.

The incised zone is theoretically dependent only on the median and ulnar nerves.



the peripheral nerve blocks (PNB) seem to offer the best compromise between an effective anesthesia of the surgical site, low risks of complications and a fast rehabilitation.

The proximal blocks (supra and infraclavicular blocks) have a higher risk (Pneumothorax, phrenic palsy, and hematoma in a non-compressible region, increased risk when There are hemostasis disorders as for one of our patients)

The axillary approach because of its efficiency, simplicity and low complication rate seems the reference solution.

Yet he is not completely destitute of it. If some are common to other PNBs, the others are specific to the axillary block: Vascular punctures. Fortunately, the vessels in this region can be manually compressed, thus limiting the consequences of such break-ins. But hematomas can occur and their risk at the axillary level is that of a neuropathy enabling median and ulnar (very rare).

Moreover, very rare cases of venous and arterial thrombosis have been reported in the literature, which makes the axillary block, for some authors, relatively contraindicated in the CRF with dialysis fistula on the same limb, the case of five of our patients.

But ultrasound makes it possible to visualize the vascular structures and thus decrease the Number of vascular punctures.

Moreover, by identifying the anatomical variations, as for the 3rd

patient where the musculocutaneous was attached to the

median, it allows to reduce the number of reorientations of the needle and thus the risk of vascular and nervous lesions.

It also reduces the volume of LA, which has gone from 40ml (usually used by our team) to 20ml. This reduction is particularly interesting in the IRC where the risk of toxicity is increased



Conclusion

The ultrasound PNB seem to offer the best risk-benefit for surgery for carpal tunnel syndrome in hemodialysis patient