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Let us answer some questions you may have

- **What is Photodynamic Therapy and what is it used for?**
- **Facts and Myths about Carpal Tunnel Syndrome**

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Photodynamic Therapy (PDT): what is it and what is it used for?

PDT combines a light source and photosensitising agent to kill susceptible cells.

The theory is that cells with a high proliferation rate (i.e. tumour cells) have increased absorption of the photosensitising agent over normal cells. The most common photosensitizing agent administered is 5- Aminoleulinic acid (5-ALA). When a light source, most commonly non-coherent light (640nm red/400-450 blue light), is then applied damage preferentially occurs to tumour cells via direct and indirect effects.

PDT has had many documented uses. Conditions that it is reported to treat are:

1. Benign: Psoriasis, HPV infection, capillary malformations, sebaceous hyperplasia, and rhinophyma
2. Premalignant: Solar Keratosis (90% clearance rate, but poor effect on thick keratotic lesions), SCC in- situ (90% clearance rate)
3. Malignant:
 - SCC: Not recommended. Clearance rates <50%.
 - Melanoma: Not recommended
 - BCC: superficial BCC on the body have a 79% clearance rate. However for all other subtypes of BCC's and other locations no studies support PDT due to low clearance rates.

The treatment process with PDT can take a number of hours and can be very painful for patients. Potential complications include: hypo/hyperpigmentation, blistering and ulceration, photophobia and generalized photosensitivity. So whilst PDT is marketed as a non-invasive technique patient need to be aware that there are potential side effects.

Carpal Tunnel Syndrome: Facts and Myths

Carpal tunnel syndrome (CTS) is compression of the median nerve in the carpal tunnel. It is the most common compression neuropathy of the upper limb.

The carpal tunnel is an anatomical structure that contains nine flexor tendons and the median nerve. The volume of the carpal tunnel is 30ml and any decrease in this volume results in compression of the nerve. Risk factors for developing carpal tunnel syndrome include being male, Increasing age, hypothyroidism, diabetes, pregnancy and heavy manual labour.

Classic symptoms are radial sided parathesia, nocturnal symptoms, decreased dexterity and strength. Signs are wasting of thenar muscles (particularly abductor pollius brevies), positive Tinel's sign, Phalen's sign and decreased sensation on radial side of hand.

Nerve conduction studies (NCS) can be used to confirm a clinical diagnosis. However, in people with classic symptoms it is not always required before treatment is implemented. I order NCS only if the patient has atypical symptoms or is seeking works cover.

Treatment options for CTS are:

1. Nocturnal splinting. This helps with night symptoms however does not treat the underlying compression of the nerve. I find this useful in pregnancy related CTS as it is self- limiting and symptoms tend to resolve once the pregnancy is complete.
2. Steroid injection. Success rates in studies vary from 40 to 50%. However once the steroid effect wears off the symptoms often return. I use this modality in people not fit for an operation and combine it with splinting
3. Operative release of the carpal tunnel. The most effective form of treatment. 95% success rate in relief of symptoms.

Debate continues on whether open or endoscopic carpal tunnel release is more effective. Four meta-analysis studies have shown little difference apart from a 3% increase rate of median nerve injury and 2 day earlier return to work with endoscopic release. Hence for safety reason I prefer to perform my releases open.

Facial Rejuvenation with BOTOX®

At WPRS, the injectable muscle relaxant BOTOX® (botulinum toxin) is used to treat dynamic wrinkles by relaxing the wrinkle-causing facial muscles. Once relaxed, the muscle cannot contract. Thus, BOTOX® gradually smooths wrinkles and prevents worsening of them. After injection, BOTOX® takes 2 to 3 days to start working, up to 14 days for full effect. Treatment typically lasts 2 to 4 months and depends on the dose administered, as well as the patient's facial muscle bulk/strength. The most common areas for use are in the upper face, into the muscles associated with frowning (above brow), smiling (around eyes, 'crow's feet') and looking surprised (forehead).

In addition to its uses in facial rejuvenation, BOTOX® can be injected into the muscles associated with 'clenching' to reduce teeth grinding and migraines. It can also reduce excessive sweating when injected superficially around sweat glands in the dermis.

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