



Treating Facial Palsy

Aesthetic nurse prescriber Michelle McLean provides insight into facial palsy and treatment options within aesthetic medicine

Facial paralysis, or facial palsy, is a common neuropathy with an annual incidence of 70 cases per 100,000 members of the population in the UK.¹ It may be more following COVID-19 infection and its reported possible side effects, although more research is needed into this area to confirm any hypothesis.^{2,3}

Patients with concerns about facial paralysis frequently present to aesthetic clinics hoping to achieve better facial balancing through aesthetic treatments. Increased patient knowledge and awareness of non-surgical procedures and the advancement of injection techniques have led to a significant shift from surgical to non-surgical and combined approaches.

As a clinician, a sound understanding of facial paralysis is essential when treating patients presenting with facial palsy, and considerations should be made to ensure that treatment positively impacts both the physical and psychosocial care of patients.

Causes of facial palsy

Facial paralysis, or facial palsy, generally refers to weakness or total loss of movement of the facial muscles resulting from temporary or permanent damage to the facial nerve.⁴ Facial palsy can be a congenital disorder, meaning it presents at the time of birth due to delivery traumas and genetic or malformative diseases.⁵ It can alternatively be acquired, possibly

| Site | Aetiology |
|---------------|--|
| Intracranial | <ul style="list-style-type: none"> Acoustic neuroma Stroke (forehead spared) Brain stem tumour |
| Intratemporal | <ul style="list-style-type: none"> Bell's palsy (diagnosis of exclusion Herpes zoster oticus, Ramsay-Hunt syndrome) Middle ear infection Trauma: <ul style="list-style-type: none"> Surgical Temporal bone fracture Lacerations anterior/inferior to the tragus |
| Extratemporal | <ul style="list-style-type: none"> Parotid tumours |
| Miscellaneous | <ul style="list-style-type: none"> Sarcoidosis, polyneuritis |

Table 1: Causes of facial nerve palsy¹⁰

appearing at any time during life due to infective, inflammatory, neoplastic, traumatic or iatrogenic causes, and affecting people of any age.⁵

The most common known cause of facial paralysis is generally idiopathic with no apparent reason: Bell's palsy.⁶ Other facial nerve palsies can be related to several conditions: Ramsay-Hunt syndrome (caused by herpes zoster outbreak), cholesteatoma, parotid gland tumours, Lyme disease, otitis media, HIV, leprosy, amyloidosis, Guillain-Barré syndrome and sarcoidosis (autoimmune diseases), diabetes and strokes (Table 1).⁶⁻⁸ Infection reports account for 7% of presenting cases, trauma 10-23% and tumours 2-2.5%.⁹

When facial paralysis presents, there is damage or injury to a particular branch of the facial nerve and the correlated muscles.¹ Facial nerve damage can result from various causes frequency of these is as yet unknown.¹

Facial paralysis can be identified as unilateral (affects one side of the face), which is most commonly seen, or bilateral (affects both sides) – a rarer presentation.¹ The symptoms of facial palsy can vary between patients depending on the underlying cause and severity of the condition.¹

In some cases, the weakness or paralysis may be mild and only affect certain areas of the face, such as the mouth or eyelid. In more severe cases, the entire face may be affected, including the ability to close the eye on the affected side.¹¹

Medical treatment for facial palsy depends on the underlying cause of the condition. In some cases, the condition may improve on its own over time. In the UK, patients experience a considerable variation in care pathways, including medication, physical therapy and surgery.¹² A face-to-face consultation should establish if the patient has a confirmed diagnosis of facial palsy, and the severity of their condition. In the absence of a confirmed diagnosis, the clinician must refrain from treatment and refer the patient back to their GP for further investigation.

In an upper motor neurone palsy, the frontalis is spared, and the patient can still wrinkle the forehead on the affected side. There is no effect on the eyelid or closure of the eye itself. Various causes of upper motor neurone facial palsy include multiple sclerosis, stroke, intracranial tumours, HIV and infections such as syphilis.¹³

Lower motor neurone lesions are associated mostly with Bell's palsy, and around 10 to 40 people per 100,000 are

affected annually.¹⁴ A lower motor neuron palsy presents with a total unilateral palsy presentation.¹⁴ Other lower motor neuron lesions are associated with Ramsay-Hunt Syndrome.¹⁴

It is important for clinicians to refrain from attempting to diagnose patients with facial palsy. Diagnosis should be established through the patient's GP/NHS secondary care pathway to determine the condition's underlying cause. These individuals possess extensive training and experience in this field, so patients should be referred on to them.

Successful treatment of patients relies on assessing the individual's presentation in-clinic, rather than focusing solely on the cause of paralysis. An all-encompassing understanding of the patient is essential for effective treatment since symptoms are unique to each patient and a generalised approach will not suffice. Analysing the patient's psychosocial wellbeing and the impact of paralysis on their daily life is crucial in identifying their specific concerns and objectives.

Damage to the facial nerve CN VII, whether inflammation or compression, can trigger substantial variable symptoms depending on the lesion site and the branch affected, which can be permanent or reversible.^{15,16} Symptoms can include a visible mouth droop, flattening of the nasolabial fold, inability to close the eye and smoothing of the brow on the damaged side.^{15,16}

The main causation of Bell's palsy suggests it relates to the herpes simplex virus.¹⁵ Therefore, understanding the facial nerve complexity and its variability is pivotal for clinicians in the non-surgical medical aesthetics arena to treat nerve-related injuries/conditions, and prevent damage whilst providing satisfactory results to patients.

Aesthetics as a potential cause of facial paralysis

From an aesthetic perspective, nerve injury secondary to dermal fillers, although rare, can occur, whether it be through blunt or sharp force. The facial nerve can undergo trauma through direct injection into a nerve by needle or cannula, or through compressing and excessive massaging of dermal fillers, which can result in sensory or motor deficit.¹⁷ Threads and dental block procedures can also result in nerve injury.^{18,19}

Whilst sound anatomical knowledge is pivotal and will help to reduce the risk and potential of nerve-induced trauma, practitioners should acknowledge that anatomical variations do exist.

If a patient presents with paralysis or weakness following an aesthetic procedure, it is vital that a full face-to-face consultation, medical history



Figure 1: 56-year-old female patient at baseline in 2019, and at 2022 following botulinum toxin treatment

analysis and examination of ocular and perioral musculature is sought, as this will greatly assist in the effective and appropriate management of onward secondary care referral.

Facial paralysis caused by dermal fillers is extremely rare, and in my 12 years of aesthetic practice, I have never encountered this complication. Studies in this area are limited, and it would be beneficial for it to be recorded in the future. To ensure the safety of the patient, it is important to have a reliable referral system in place. The use of ultrasound scanning can provide valuable information about the placement of dermal fillers, which can be shared with emergency services if immediate treatment is needed.²⁰ If the clinician lacks relevant experience or cannot provide treatment, it is necessary to refer the patient for emergency treatment via the NHS Emergency Department or with a complications management specialist.

The facial nerve is a vital structure for emotion and communication, and impairment can cause a substantial decline in a patient's quality of life.¹⁴ The impact of the inability to smile and express emotion is the main distressing aspect of facial palsy, and such individuals fear being negatively evaluated by others, which has a detrimental impact on their social interactions.²¹

Aesthetics as a treatment for facial paralysis

The administration of botulinum toxin can play a crucial role in improving quality of life in facial palsy patients. A recent study showed that a single dose of botulinum toxin administered on the unaffected side of 18 patients with acute facial paralysis generated momentous improvement in facial symmetry four weeks post-treatment.²¹ Individualised botulinum toxin injection patterns are critical for optimal unilateral synkinesis and contralateral hyperkinesis success. It is important to note that synkinesis treatment aims to target accurate, viable synkinesis muscles and not stimulate flaccid muscles.²¹

When it comes to individualising treatment for patients with facial paralysis, it is crucial that the clinician is well-trained and highly experienced. They should have received ample training and gained experience by shadowing other specialist practitioners who regularly treat facial palsy. In addition to having a thorough understanding of facial anatomy, clinicians should also take a holistic approach to treatment and be familiar with various options such as surgery, therapy, rehabilitation and more. If a clinician is not experienced in treating facial paralysis, referring the patient to a specialist practitioner or back through their NHS pathway is recommended.

Those seeking to expand their knowledge can refer to courses like 'A Multidisciplinary Approach to the Management of Facial Palsy' developed by Catriona Neville (ESP Physiotherapist at Queen Victoria Hospital NHS Foundation Trust) and Sally Glover (Clinical Specialist Physiotherapist, University Hospitals Birmingham NHSFT).²²

Botulinum toxin can be administered into the non-paralysed facial muscles for successful hyperkinesis treatment to help relax the activity and improve symmetry. Clinicians must carefully consider the precise injection location, depth and angle of treatment, as unnecessary side effects can harm such patients and further exacerbate facial asymmetry. To help minimise such risks, under-correction is essential in the initial treatment plan, as additional injections can be made during the review appointment.²³



Figure 2: 35-year-old female patient at baseline, after botulinum toxin treatment in 2023 and after EMFACE treatment in 2023

Case study one

This case looks at a 56-year-old female patient. The patient has attended my clinic for regular treatment over the past four years. She has Ramsay Hunt syndrome, and had previously accessed toxins for palsy from the NHS. Free NHS treatment is limited, so additional treatment at my clinic has been used to maintain results in between. Following a recent appointment with her NHS consultant, she was highly dissatisfied with the results, noting that the results seemed to emphasise asymmetry. The patient's wedding was imminent and following successful treatment at my clinic in the past, she returned to discuss possible options before her big day.

A consultation was conducted before treatment to assess suitability and manage the patient's expectations. It was explained that a conservative approach with a view to subsequent top-ups would be the best approach, as in patients with facial palsy, higher doses of botulinum toxin can lead to difficulty talking, eating and drinking.²⁴

Treatment

Botulinum toxin type A (Azzalure from Galderma) was injected into the depressor anguli oris (5 Speywood units) and the upper horizontal fibres of the platysma (20 s.U) on the contralateral side to the facial palsy to decrease the tone of the muscle and improve symmetry. This reduced the downward force of zygomaticus major, zygomaticus minor, levator labii superioris and levator labii superioris alaeque nasi, and provided an elevation of the tissue.

Azzalure was also injected into the mentalis (10 s.U) to enable oral commissure elevation, and the orbicularis oculi (20 s.U) and corrugator supercilium (20 s.U) on the unaffected side to improve symmetry and balance. Vivacy Stylage dermal filler was combined with botulinum toxin to improve zygomaticus function and balance as well as improve lip symmetry at rest. Stylage S (1.2ml) was used to augment the lip and soften perioral lines on the hyperactive side. Stylage M (1.3ml) was used to soften and reduce static line activity in the nasolabial fold areas and to support oral commissure elevation.

Results

The patient results show facial balance and harmony have been restored (Figure 1), and she reported that her wellbeing had significantly improved. Aftercare advice was general for any patient undergoing toxin and dermal filler treatment; no aftercare specific to facial paralysis was necessary. The patient will next attend the clinic four months after treatment for a new assessment and potential continued treatment.

Case study two

This case looks at a 35-year-old female patient. She suffered facial palsy due to nerve damage from surgical operations on the jaw. Her wellbeing was deeply affected by the physical effects of facial paralysis, meaning she was sometimes withdrawn from society.

Treatment

Initially, toxin was chosen as the management plan to relax unwanted muscle activity on the unaffected side. Azzalure was injected into the corrugator supercilium (20 units s.U), frontalis (15 units s.U) and orbicularis oculi (15 units s.U) on the unaffected side to achieve symmetry and facial harmony by reducing unwanted

tension and hyperactivity due to synkinesis. Four months following toxin treatment, we utilised this patient as part of a small study using EMFACE technology. The patient underwent four sessions of EMFACE, each session one week apart. In EMFACE, three facial applicator pads simultaneously emit both synchronised radiofrequency and high intensity facial electromagnetic stimulation (HIFES) energies, causing stimulation on the elevators of the facial muscles – the frontalis, the zygomaticus major and minor and the risorius muscles.²⁵ The treatment resulted in significant improvements in facial symmetry even after one session.

Results

The patient results show facial balance and harmony have been restored (Figure 2), and she reported her wellbeing and mental health had significantly improved. Aftercare advice was general for any patient undergoing toxin or EMFACE treatment; no aftercare specific to facial paralysis was necessary. Toxin results typically last around four months, so the patient will next attend the clinic in four months for a new assessment for toxin management.

Improving patient wellbeing

When carrying out aesthetic treatments, sound anatomical knowledge is required to minimise the risk of nerve injury/neurapraxia, which can be linked to dermal fillers and thread administration, resulting in facial palsy. When it comes to facial palsy patients, whether the condition is related to Bell's palsy, Ramsay Hunt Syndrome etc., experienced clinicians can play a pivotal role in improving patients' quality of life through the successful administration of botulinum toxin and other aesthetic treatments.



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