Practical guidance on avoiding adverse events following soft tissue augmentation – some tips

Complications following soft tissue augmentation range from the mild to the serious, e.g. blindness due to occlusion of the branches of the ophthalmic artery to the eye. Much of the literature reviewed appears to indicate that no treatments were found to be consistently successful in treating blindness. In one, the authors concluded that, "Although the risk of blindness from fillers is rare, it is critical for injecting physicians to have a firm knowledge of the vascular anatomy and to understand key prevention and management strategies" [1]. Occlusion of the vascular system to the skin causing dermal necrosis has an estimated prevalence of 0.001% of procedures performed with different soft tissue augmentation materials [2].

Looking at the current discussions in the literature here is some pre and peri-treatment advice to minimise the risk of general and specific complications:

1. The potential for visual loss and skin necrosis must be on consent forms and be explicitly discussed with the patient.
2. All practitioners performing injectable treatments in the facial region must have a thorough knowledge of facial anatomy in respect to vessels (layers of face and where vessels may be found).
3. Aseptic skin preparation and cleaning of the whole face prior to injection of injectable implants (dermal fillers) is essential and following principles of aseptic non-touch techniques (ANTT) during the procedure.

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4. When using a cannula (single-entry sites), care should be taken to minimise adjacent skin contact on cannula entry so as to avoid the introduction of skin commensals at each entry and frequent cleaning of the skin prior to each insertion.
5. While performing injections, these should be delivered slowly with minimal pressure, to minimise trauma and also the potential for embolism if a vessel has unknowingly been breached.
6. There have been reports that when injecting a bolus, the volume of injectate should be a limited volume of less than 0.1ml per bolus [3].
7. The cannula used to inject should be 25G or greater in diameter. There is some evidence that a 27G cannula has great potential to penetrate arterial walls.

Patient support

Following the adverse event and institution of any management plan, the following aspects should be addressed:

- Inform the product manufacturer regarding the adverse event and the product(s) used, volumes and all details of the product.
- The Medicines and Healthcare products Regulatory Agency (MHRA) in the UK must be informed regarding this adverse event.
- Liaise with the specialist facility and discuss the potential serious outcome of the adverse event. The practitioner has a duty of candour to be transparent in their actions concerning this event.
- Provide ongoing support for the patient's family and keep in close contact with the patient during this period. The patient may feel vulnerable and angry and it will be important to provide support to them.

There will be important administrative aspects that the practitioner will need to address in accordance with Good Medical Practice:

- The relevant medical indemnity provider must be informed.
- Details of all the events preceding and the interventions / action taken must be accurately recorded, including: treatment schedule product use / volume and site injected, needle / cannula including size.
- All relevant photographs of the patient should be available.
- All communications between the specialist facility, patient and practitioner should be documented.

Although complications will never be completely eliminated, following general principles of good practice will provide the practitioner with some parameter of safety.

References

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