than 1.2 per 1,000, occurring on average six months after injection. These unusual reactions are difficult to manage and can appear months to years after initial exposure.[1] The longest reported time period for developing a granulomatous reaction is 48 months.[2]

The underlying aetiology for a granulomatous reaction to DermaLive® is unknown. Factors influencing their development include properties of the filler, the volume injected and previous infection or trauma, hypersensitivity reaction to the hyaluronic acid carrier or an underlying or associated infection.[3] Tyssen and Menne suggest that an allergic contact dermatitis response to the methylmethacrylate monomers may be an important aetiological factor.[4] The shape of the microspheres may induce a more severe granulomatous reaction.[5]

The formation of sterile abscesses raises questions regarding what triggered the inflammatory response. Activation of the immune system would involve an interaction between an immunogenic protein and the host immune cells. Inappropriate inflammatory responses, such as hypersensitivity reactions, also occur in response to invading proteins. As a glycosaminoglycan, hyaluronic acid is not a protein and accordingly, allergic reactions are rare.[6] It can only be speculated as to the cause of the inflammatory response observed in our case.

Several treatment options exist. All are more experience-based than evidence-based and include local steroid injection and laser excision, but both have limitations.[7]

To our knowledge this case is possibly one of the longest reported delayed reactions to dermal fillers and with permanently scarred soft tissues. In a litigious society general dental practitioners using these fillers should be aware of these possible complications.

As with any cosmetic procedure, receiving informed consent and having effective communication with the patient before treatment is paramount. The increasing use of non-surgical aesthetic procedures in the general practice setting (thereby making them more available to the public) may lead to more cases of adverse reactions to dermal fillers. Once granulomas form in perioral areas it is not an easy problem to solve. Public and professional education is essential to avoid such perils.

CONCLUSION

Soft tissue augmentation with filler agents is in high demand, largely due to increased public exposure to these products and increasing confidence that these agents provide a safe and consistent means of facial rejuvenation. Despite the impressive safety profile of these products, complications do occur. It is important for the GDP to be knowledgeable about the perils of dermal fillers and select the product most likely to address the patient's concerns. If a granulomatous reaction does occur, thorough understanding of the diagnosis and treatment algorithms will help the injector safely navigate through this circumstance to minimise long-term sequelae. This article helps the GDP understand fillers and their complications in a way that will allow them to successfully avoid, accurately diagnose and efficiently manage potential granulomatous adverse events.

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Corrigendum

Practice articles (*BDJ* 2012; **214:** 155–158, 227–231)

'An overview of electronic apex locators: part 1' and *'An overview of electronic apex locators: part 2'*

In the above practice articles, the resistance given in Figure 4 (*BDJ* 2012; **214:** 155–158) and Figure 1 (*BDJ* 2012; **214:** 227–231) should have read 6.5 kΩ. Similarly, the following sentence (*BDJ* 2012; **214:** 227) is incorrect:

'the electrical resistance between an endodontic instrument at the apical foramen and an electrode attached to oral mucous membrane was approximately 6.5 kW'.

This should have read 'approximately 6.5 kΩ'.

The authors apologise for any confusion caused.