Dental anatomy

Deep masseteric layer

Sir, traditionally the masseter muscle was considered to be bilayered, consisting of superficial and deep layers.[1] Recently, Mezey *et al.* at the University of Basel discovered a third deeper layer of the masseter muscle (*Musculus masseter pars coronidea*) in a cadaveric study.[2] They noted that this layer originates on the zygomatic process of the temporal bone, running anteromedially attaching at the base and the posterior margin of the coronoid process of the mandible. It is supplied by the masseteric nerve and artery supporting the common origin of these layers. Although the exact independent function of this muscle is unknown, it is likely that it helps in retracting the mandible due to its oblique angulation as opposed to other layers which elevate the mandible.

A 65-year-old patient presented with progressively worsening pain of the left face and jaw-locking for prolonged periods of the day. Examination revealed palpable swelling over the right TMJ and parotid region.

Fig. 1 Right condylar synovial osteochondromatosis

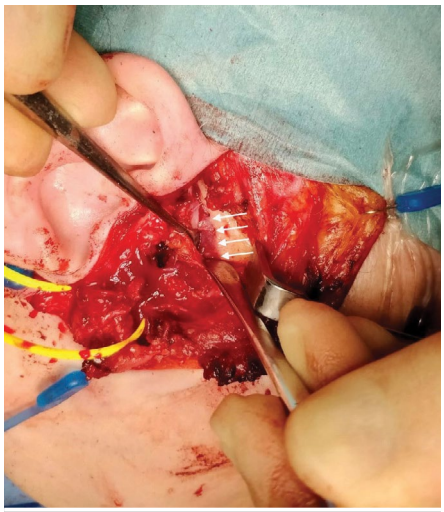

Fig. 2 Deep layer of masseter muscle (white arrows)

Multiple cross-sectional imaging revealed a calcified mass lesion posterior to the right mandibular condyle suspicious of synovial osteochondromatosis (Fig. 1). A preauricular approach with temporal extension was planned and executed to access this tumour. The deeper layer of masseter was noted during dissection and a pictorial description is presented here (Fig. 2).

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Infection control

Monkeypox

Sir, recent reports of infection with the Monkeypox virus via community transmission in the United Kingdom (UK) have prompted me to question the impact this could potentially have on dentistry.[1] According to the Centers for Disease Control and Prevention (CDC), Monkeypox is a rare virus belonging to the *Orthopoxvirus* genus.[2] Since first being discovered in humans in 1970, the virus has been reported in central and western African countries, the United States, Israel, Singapore and the UK. Currently, the natural reservoir of Monkeypox is unknown.

Monkeypox virus enters the body through broken skin, the respiratory tract or through the mucous membranes of the eyes, nose, or mouth. Human-to-human transmission primarily occurs through respiratory droplets during periods of prolonged face-to-face contact and via indirect contact with lesion material through contaminated clothing.

Those infected with Monkeypox initially experience fever, headache, muscle aches, lymphadenopathy and exhaustion. Within three days, a spreading bodily rash develops, often beginning on the face. Incubation period of the virus can range from 5–21 days. Awareness of the signs and symptoms amongst the dental profession needs to be reinforced. Given the nature of our work, we are in a position to remain vigilant to the early signs of a facial rash amongst patients. The large volume of aerosol generated procedures we undertake in dentistry places us at higher risk of becoming infected with the virus due to the mode of transmission. In recent weeks, guidelines around the use of personal protective equipment (PPE) and social distancing have changed in relation to the COVID-19 pandemic. However, the CDC state that prevention of Monkeypox virus transmission is aided by self-isolation, meticulous hand hygiene and the use of PPE. Due consideration needs to be given to the fact that if reported cases increase, re-implementation of these protective measures may be necessary amongst healthcare staff.

Currently, Monkeypox may not be a cause for major concern but it is imperative we remain vigilant as the lessons we learned from the COVID-19 pandemic cannot be forgotten.

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https://doi.org/10.1038/s41415-022-4358-8

Evidence-based dentistry

PRISMA 2020 updated guideline

Sir, we would like to inform the readers of an update to the PRISMA 2009 statement,[1] which was referenced in the article submitted by Alkadhimi *et al.* in January 2021 and accepted for publication in April 2021.[2] The PRISMA 2020 statement[3] replaces the 2009 statement[1] and was published in March 2021. It includes new reporting guidance for systematic reviews that reflects advances in methods to identify, select, appraise and synthesise studies.

The updated statement consists of an improved 27-item checklist, the PRISMA 2020 abstract checklist and revised flow diagrams for original and updated reviews. This letter aims to inform on the most noteworthy changes, including the need to include full search strategies for all databases, where previously the recommendation advised at least one database. In addition, under study selection, there is now an emphasis on detailing the reviewers involved. This includes the total number of reviewers and if any automated tools were used.

Under 'Data items' in the new checklist, the addition of a sub-item aims to clarify how outcomes are defined, the methods utilised to select results and how this was carried out. 'Synthesis of results', under the methods section, is now broken into six sub-items to define the recommendations for reporting the eligibility, preparation, display, synthesis, exploration of heterogeneity and sensitivity analyses utilised during gathering and collating data. The 'Synthesis of results' within the results section has also been broken down to allow for more depth on the risk of bias, causes of heterogeneity and the use of sensitivity analyses.

The addition of reporting the certainty/confidence of evidence and its implications also allows for clinicians to understand how the results should be translated into policy and practice. Competing interests are now recommended to be reported for transparency of the results. This is along with whether the data, analytical code, or any other aspects of the collection and interpretation are publicly available and if so, where they can be accessed.

The flow diagrams have also changed to reflect the checklist and simplify understanding of the process. The previous four-phased flow diagram on study inclusion has now been updated to three, with removal of 'eligibility' and retention of 'identification', 'screening' and 'included'.

The PRISMA 2020 statement aims to encourage standardisation and reproducibility for reporting outcomes. Reporting and sharing findings through this method will allow for work carried out to be shared, reducing duplication and meaning further research can be conducted. This update ultimately aims to increase our ability to facilitate the highest standard of evidence-based care for our patients.

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https://doi.org/10.1038/s41415-022-4359-7

Oral health

Interdental brushes and ISO standards

Sir, in recent years interdental space cleaning brushes in various diameters have become an important part of patients' home plaque control because 'in order to achieve the highest standards of interdental cleaning, interdental brushes are the most effective'.[1] Many different manufacturers now provide these important aids to oral hygiene. The brush heads themselves may be parallel sided or tapered. Handles vary from those in line with the brush head to various angled devices, creating a wide range of options for prescribers and their patients.

Unfortunately, there is little commonality between the different diameters on the market and the colour codes used by the manufacturers to identify the handles of their own size range. This can cause problems for patients, particularly if they attempt to buy brushes, for example online, and choose the cheapest available in that colour, forgetting that they need to follow the definitive sizes for the original maker's brushes prescribed by their dentist or hygienist. It follows that dental professionals, when they prescribe brushes, also need to advise patients to use their chosen manufacturer's brushes.

An alternative to suggesting patients just buy further brushes is for practices to stock brushes and advise patients that they can buy replacements from them. This has the following advantages:

- It ensures that the correct make, as prescribed, is used
- It allows the prescriber to monitor each patient's usage, or lack thereof
- It provides a further source of income for the practice.

Table 1 shows some of the choices available from internet research for parallel-sided brushes and is by no means exhaustive, particularly as some manufacturers do not disclose the diameters of their brushes online. It follows that patients seeking the cheapest possible brush could easily be confused by the plethora of options available. It is also clear from this study that patients requiring large diameter brushes where there is significant bone loss have limited choices; either Tandex or TEPE. There is no standard relationship between brush diameter and handle colour although it would appear that more follow the TEPE pattern. This could form the basis for standardisation. Manufacturers should also give brush diameters on their various packages.

A similar situation of non-standardisation existed with endodontic files in the past, before the current international standard colours were agreed. It seems to me that the time is now appropriate for a similar ISO standardisation programme for interspace

Table 1 Parallel-sided interdental brush comparisons across various manufacturers

Manufacturer	Colgate	Curaprox	Icon	Piksters	Tandex	TEPE	Procare
Country of origin	USA	Switzerland	UK	USA	Denmark	Sweden	Not known
Diameter in mm							
0.2	red						
0.3			white	pink	turquoise		
0.4	blue		pink		coral	pink	pink
0.5			orange	purple	tangerine	orange	orange
0.5	green		red	white	ruby	red	red
0.6	yellow	turquoise	blue	green	aqua	blue	blue
0.7		red	yellow		lemon	yellow	yellow
0.8		pink	green		lilac	green	green
0.9		yellow					
1.0					lime		
1.1		lime	purple			purple	
1.2					violet		
1.3			grey			grey	
1.5							black