

Temporomandibular joint assessment in anaesthetic practice

Editor—Temporomandibular joint dysfunction (TMJD) is a term used to describe a number of related disorders involving the TMJ, masticatory muscles and associated structures. All these conditions share symptoms such as pain, which is centred in and around the pre-auricular region. Clicking or grating sounds on mandibular movement may also occur together with restricted mouth opening.¹ About 60–70% of the general population have at least one of these signs of TMJD, yet only one out of four such individuals is aware of them, or reports any symptoms.² The aetiology of TMJD is complex and still largely unresolved. Malocclusion, psychogenic factors, and trauma, both chronic and acute, are often cited as possible causes or exacerbating events in patients vulnerable to TMJD.³ In the literature, few studies focus on the relationship between the TMJ and orotracheal intubation, and TMJ evaluation may not be performed during preoperative anaesthetic assessment (www.tmj.org/causes.asp).

During direct laryngoscopy, after induction of anaesthesia, damage may occur to the TMJ, especially during difficult intubation, attributable to: (i) excessively wide opening of the mouth, by applying force in opposite directions to the upper and lower teeth; (ii) advancing the laryngoscope blade toward the base of tongue and sweeping it toward the midline, so that the tongue is pushed across the mouth; and (iii) using the laryngoscope blade to visualize the glottic plane.⁴ In addition, tooth grinding or clenching during wakening can stress the TMJ.

From September to November 2002, 68 patients (mean age 50.6 yr; range 17–82 yr; F 28; M 40) were studied for evaluation of TMJ dysfunction before and after surgery. Patients undergoing a surgical procedure potentially causing TMJD and those with ear disease were excluded. Preoperatively and the day after surgery, examination of the mouth and jaw including: maximum mouth opening; deviation of the mandible upon opening or closing the mouth; and clicking, crepitation or pain on palpation were performed by the same practitioner, who did not perform tracheal intubation. Patients with at least two of the following signs were considered to be affected by TMJD: a reduced range of painless maximal vertical opening (normal range 42–55 mm interincisal distance);¹ pre-auricular pain and earache; or clicking or grating sounds on TMJ movement. Nine of 68 patients (13%, 95% CI 6.2–23.6%) had a functional disturbance of the TMJ before intubation. After intubation, 4/9 (44%, 95% CI 13.6–78.8%) with TMJD showed worsening of the dysfunction; and 3/59 (5%, 95% CI 1–14%) subjects developed TMJD for the first time.

Dysfunction of the TMJ is not an uncommon cause of difficult intubation in patients with a normal airway.⁵ On the basis of these data, we propose to include in our preoperative anaesthetic evaluation a clinical assessment of the TMJ in all patients. This will allow us to choose the best intubation technique and to reduce the risk of post-intubation new onset TMJD, or worsening of misdiagnosed TMJ disorders. Further studies would improve our knowledge about risk factors and the relationship between the TMJ and orotracheal intubation.

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DOI: 10.1093/bja/aeg561