Audit at the Royal London Hospital to assess the proportion of orthognathic cases completed within an established time frame

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Background: Combined orthodontic and orthognathic treatments require team coordination due to the length and complexity of cases. However, this is often compounded by additional delays due to waiting lists for surgery and other complications. This results in potential emotional and physical distress to the patient. As clinicians, we should deliver efficient and safe care to our patients within a reasonable time frame to minimise adverse effects.
Objectives: The objectives of this audit are to identify causes for delays to orthognathic treatment and establish a pathway to minimise avoidably prolonged treatment times.
Methods: A retrospective case note review of data over 6 months of patients undergoing mixed orthodontic and orthognathic treatment. This audit looked at the total treatment time from new patient multidisciplinary assessment, through preoperative orthodontic treatment to orthognathic surgery and postoperative orthodontics. The end of treatment was classed as discharge after retention was provided.
Findings: Results found that in the majority of cases, the treatment was significantly longer than the established gold standard. This was due to several factors e.g. bed availability. In a small proportion, waiting list cancellations meant that patient treatment was accelerated and completed within the recommended timeframe.
Conclusion: A retrospective evaluation of the Royal London Hospital orthognathic service highlighted significant drawbacks within the patient pathway. Effective identification and management of patient and hospital factors can minimise these, thus enhancing treatment efficiency and minimising patient impacts. The success of changes implemented to enhance the service will be re-audited in a further 6 months time.

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Large maxillary advancement to treat a prognathic profile in an acromegalic patient with a narrow airway and a thin mandibular ramus

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Background: Acromegaly is a rare syndrome resulting from a chronic excess in the production of growth hormone, in most cases due to a pituitary adenoma, resulting in a disfiguring disease that reduces life expectancy because of cardiovascular and respiratory complications.
Objectives: The aim of this study is to report a case of a 50-year-old acromegalic male patient, whose clinical features include elongated body ends and nose, thickened skin and cheekbones, frontal bossing, severe prognathism, dental malocclusion and macroglossia.
Methods: The patient underwent surgical removal of the pituitary adenoma, and his growth hormone levels were normalised, however he still had masticatory complaints. To treat the prognatism was performed a orthognathic surgery using virtual planning software three-dimensional involving only a maxillary advancement of 15 mm.
Findings: It was observed that the patient had a reduced airway, common in patients with acromegaly. It was also observed the presence of a mandibular ramus purely with cortical bone and minimum thickness, making a mandibular surgery prone to mandible fractures and airway obstruction.
Conclusion: The treatment of maxillomandibular discrepancies in patients with acromegaly is not always possible to improve the aesthetics and function at the same time by dividing the surgical movements between the two jaws because the airway differences in these patients and individual factors related to bone structure. The patient was followed-up for 1 year without recurrences.

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The effect of orthognathic surgery polysomnography and apnoea/hypopnoea index in treatment planning

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Obstructive sleep apnoea syndrome (OSAS) is a serious health condition that affects 2–4% of the adult population and reduces quality of life. Polysomnography (PSG) with recording of respiratory variables is considered to be the gold standard for the diagnosis of OSAS. For the diagnosis of OSAS, five or more episodes of apnoea/hypopnoea per hour of sleep is necessary during sleep. An important aspect of orthognathic surgery is the changes on oropharyngeal airway caused by maxillary/mandibular movements. The aim of this study is to evaluate the relationship between the apnoea/hypopnoea index and PSG results with the degree of jaw deformity and its consequences in treatment planning of orthognathic surgery.

This pilot study was performed on patients undergoing orthognathic surgery in the Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Ankara University. 19 patients who had diagnosed skeletal disorders and planned orthognathic surgery underwent PSG preoperatively. Also patients were evaluated by Epworth sleep scale. Cephalometric analysis was performed for each patient. Apnoea/hypopnoea index was seen between 5 and 15 in 6 of 17 patients with mandibular prognathism. One of the 17 patients had an index score more than 15. It is found to be below 5 in 10 of 17 patients. Apnoea hypopnoea index was observed more than 15 in 2 patients with mandibular retrognathism. Pharyngeal airway changes after orthognathic surgery. Apnoea/hypopnoea index should be considered in treatment planning of orthognathic surgery by making the decision of which jaw to move.

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