

Available online at www.sciencedirect.com

ScienceDirect

British Journal of Oral and Maxillofacial Surgery xxx (2017) xxx–xxx

BRITISH
Journal of
Oral and
Maxillofacial
Surgerywww.bjoms.com

Ipsilateral sagittal split ramus osteotomy to facilitate reconstruction of the temporomandibular joint after resection of condylar osteochondroma

X. Luo^{a,b}, X. Ren^{a,b}, T. Li^{a,b}, Y. Li^{a,b}, B. Ye^{a,b}, S. Zhu^{a,b,*}^a State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, Sichuan, China^b Department of Oral and Maxillofacial Surgery, West China Hospital of Stomatology, Sichuan University, Chengdu, Sichuan, China

Received 20 November 2016; accepted 24 March 2017

Abstract

We report the outcomes of 12 patients with osteochondroma of the mandibular condyle who were treated by condylectomy with sagittal split ramus osteotomy (SSRO) between January 2011 and October 2015. Variables assessed before and after operation were imaging, appearance, maximum mouth opening, maximum mandibular protrusion, lateral excursion, and function of the temporomandibular joint (TMJ). Patients were followed up for a mean (range) of 21 (13 - 30) months. Outcomes were satisfactory with no complications or recurrence. Patients regained good occlusion and facial symmetry, and satisfactory function of the TMJ. Our results suggest that SSRO is a good option for condylar reconstruction after resection of mandibular condylar osteochondroma.

© 2017 The British Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

Keywords: sagittal split ramus osteotomy; condyle; osteochondroma

Introduction

Osteochondroma, also known as osteocartilaginous exostosis, is one of the most common benign tumours of the long skeleton, but is rare in the maxillofacial region.^{1–3} The sites most commonly reported in the mandible are the condyle and coronoid process,^{4,7} and typical features are progressive facial asymmetry, pain, masticatory problems, malocclusion, and dysfunction of the temporomandibular joint (TMJ).^{8–10}

Operation is the only effective treatment. Total or subtotal condylectomy is most commonly done if the whole condyle is involved, and orthognathic surgery is sometimes needed if there are obvious secondary dentofacial deformities, particularly in patients who require long-term follow up.^{4,11} Reconstruction of the condyle is necessary after condylectomy because it is essential for function of the TMJ.

Several approaches have been described, including costochondral bone grafts and total joint prostheses. Use of the posterior border of the ramus for condylar reconstruction simplifies the operation and avoids a second surgical site,^{12,13} but the scar is visible because of the extraoral submandibular incision. Wolford et al¹¹ reported the use of sagittal split ramus osteotomy (SSRO) to reconstruct the condyle after condylectomy, but it is difficult to evaluate its effectiveness because of the lack of published reports.

* Corresponding author at: State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, Sichuan, China.

E-mail addresses: luoxt1991zg@qq.com (X. Luo), 843123083@qq.com (X. Ren), 337151218@qq.com (T. Li), 61990978@qq.com (Y. Li), 734288700@qq.com (B. Ye), zss_1977@163.com (S. Zhu).

<http://dx.doi.org/10.1016/j.bjoms.2017.03.016>

0266-4356/© 2017 The British Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

Please cite this article in press as: Luo X, et al. Ipsilateral sagittal split ramus osteotomy to facilitate reconstruction of the temporomandibular joint after resection of condylar osteochondroma. *Br J Oral Maxillofac Surg* (2017), <http://dx.doi.org/10.1016/j.bjoms.2017.03.016>

We report the outcomes of 12 patients with osteochondroma of the mandibular condyle who were treated by condylectomy with simultaneous condylar reconstruction by SSRO in our unit, and discuss its feasibility and effectiveness.

Patients and methods

We retrospectively analysed the records of 12 patients (7 women and 5 men, mean (range) age 36 (26 - 46) years) with osteochondroma of the mandibular condyle, who were treated at our unit between January 2011 and October 2015. Those with histopathological confirmation of a condylar osteochondroma, and whose operations had followed the study protocol, were included. The study was approved by the West China Hospital of Stomatology Institutional Review Board. All the patients had facial asymmetry and malocclusion, and none had previously had an operation on the condyle.

Patients had panoramic radiographs and computed tomograms (CT) before operation, immediately afterwards, and at the final follow up. Diagnosis of osteochondroma was confirmed histopathologically. A thorough examination included maximum mouth opening, maximum mandibular protrusion, lateral excursion, and temporomandibular pain. All operations were done by the same surgeon and all the clinical examinations by the same clinician. The Student's *t* test was used for statistical analysis, and probabilities of less than 0.05 were accepted as significant.

Surgical protocol

All operations were done under general anaesthesia with nasotracheal intubation. Patients with an occlusal cant had a maxillary Le Fort I osteotomy before the operation on the mandible. The TMJ was approached through a preauricular incision, and the bone between the head and neck of the condyle removed. The stump at the condylar neck was then recontoured to form a new condyle, and the disc repositioned to cover the upper surface of the neocondyle. SSRO on the ipsilateral side was then done through an intraoral incision to correct the mandibular asymmetry and fit the condylar stump and articular disc into the glenoid fossa. After stabilisation of the occlusion, the segments were fixed with a titanium miniplate. Patients with limited mouth opening had resection of the coronoid process on the ipsilateral side, and SSRO on the contralateral side and levelling genioplasty were done if necessary.

The sample of tumour was sent immediately for histopathological examination. Postoperative intermaxillary fixation was maintained for three weeks.

Results

All our patients had condylectomy and condylar reconstruction by SSRO. All of them tolerated the operation well and

Table 1
Patients' characteristics.

Case No.	Sex	Age (years)	Surgical protocol	Follow-up (months)
1	F	32	A+B+C	30
2	M	30	A+B	23
3	M	26	A+B+E	27
4	F	46	A+B+C+D+E	20
5	F	42	A+B	14
6	F	28	A+B+E	16
7	M	33	A+B	23
8	F	46	A+B	26
9	F	43	A+B+C+D+E	14
10	M	34	A+B	28
11	F	44	A+B	18
12	M	27	A+B	13

A: condylectomy; B: ipsilateral sagittal split ramus osteotomy (SSRO); C: contralateral SSRO; D: maxillary Le Fort I osteotomy; E: genioplasty.



Fig. 1. Preoperative view: severe facial asymmetry.

there were no complications. Two patients had contralateral SSRO to correct facial asymmetry, two had Le Fort I osteotomy to treat an occlusal cant, and four had genioplasty to obtain a more balanced chin (Table 1). Table 2 shows the outcomes. All patients were pleased with their postoperative appearance, and good occlusions were obtained. Radiographic imaging showed no appreciable resorption of the neocondyle and no recurrence of tumour.

Case report

A 42-year-old woman (Fig. 1) presented with an occlusal weakness on her right side, which she had had for more than

Download English Version:

<https://daneshyari.com/en/article/5638280>

Download Persian Version:

<https://daneshyari.com/article/5638280>

[Daneshyari.com](https://daneshyari.com)