

Decompression of Odontogenic Cysts

An alternative to surgery? – A case report

Joana Amaral, Daniela Alves Pereira, Manuela Carrilho, Sérgio Matos, Paulo Palma

Dentistry Area
Faculty of Medicine • University of Coimbra



CASE REPORT

Anamnesis (27-06-2014)

Name: JPVV
Gender: Male
Age: 18 years old
ASA Classification: ASA 1
Patient Complaints: Diffuse pain at 1^oQ

Clinical Examination (27-06-2014)

Swelling at 1^oQ
Sensitivity tests : 11- / 12+ / 13+
Pain on palpation

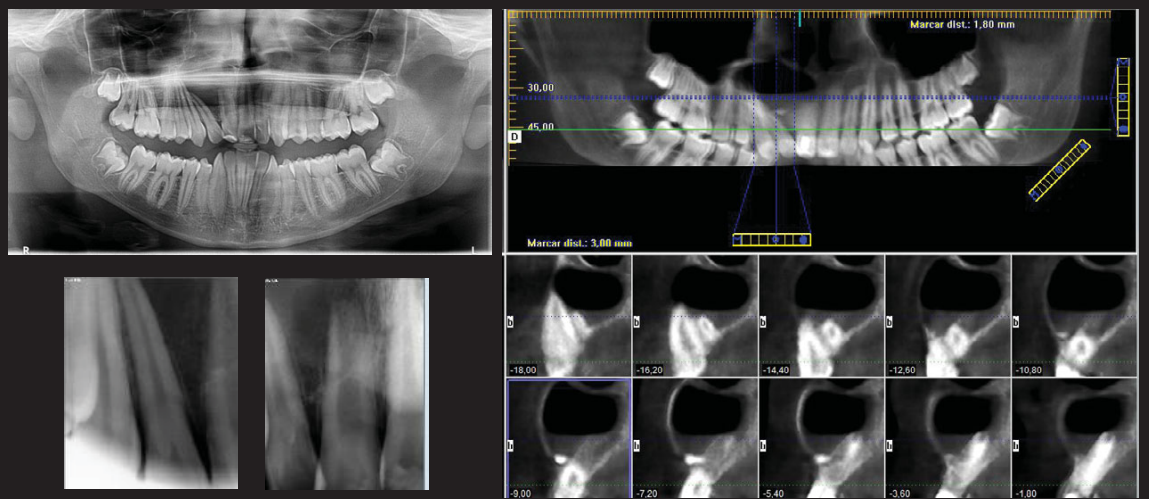
Diagnosis

Odontogenic Radicular Cyst

Treatment Plan

Endodontic Treatment of 11
+
Cyst Decompression
+
Cyst Enucleation (?)

Complementary Diagnosis Exams (27-06-2014)



In the complementary diagnosis exams we can observe a radiolucent, oval, unilocular and homogeneous lesion with well defined radiopaque edges at the level of the apical region of teeth 11 and 12. It can also be observed a deviation from the upper right lateral incisor root most likely due to growth cystic lesion, and the tooth 11 with open apex.

Treatment

Endodontic Treatment of 11 (27-06-2014)



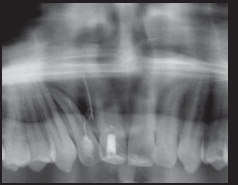
Access cavity preparation, gentle and abundant irrigation with saline solution and 2.5% sodium hypochlorite.

Placement of Cystic Decompression System (21/07/2014)



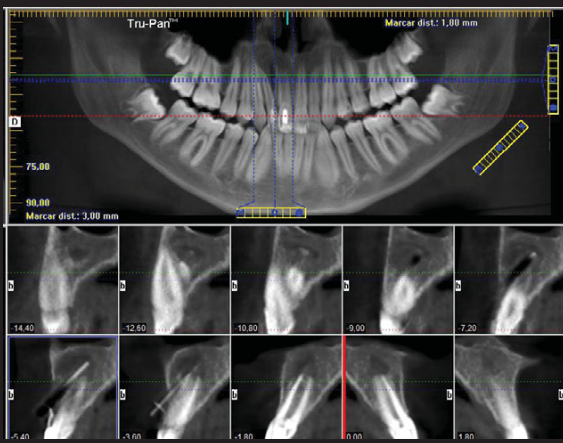
Fragment of nasogastric probe with 2.5mm of diameter.

Control – Day 69



Intracanal Medicament – Ca(OH)₂

Control – Day 195



Drain Removal (2/2/2015)



Control (9/2/2015)



Apical Barrier with MTA

Control (23/2/2015)



Apical Barrier with MTA

DISCUSSION

Odontogenic cysts are the most frequent cause of benign swelling of the jaws.⁽¹⁻⁶⁾ The most appropriate surgical technique is selected according to its dimensions, location and histological analysis.^(16,17)

Cystic decompression may be assumed as an alternative or additional option to a more aggressive surgical technique.⁽¹¹⁻¹⁴⁾ It's a minimally invasive option which involves application of a decompressor system (drain) through which an irrigation with an antibacterial solution is done after meals.^(5, 11-15,17,20-23)

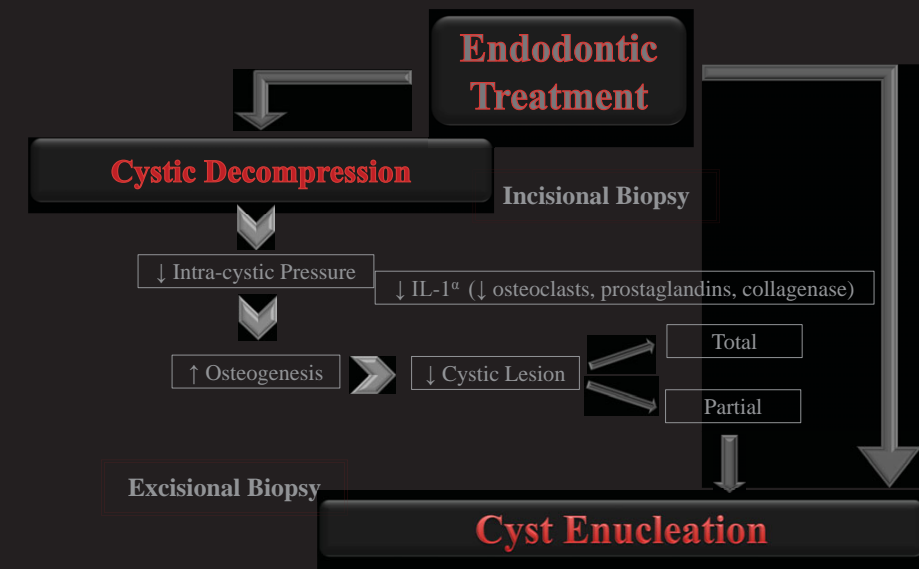
It is a time consuming technique that requires a high compliance by the patient and may cause some discomfort.^(12,23,26) It needs periodic inspections and a comprehensive follow-up, given the high risk of relapse.^(10-14,20-23)

On the other hand, cystic decompression is assumed as an alternative or a complement to a resective surgical technique, due to its low morbidity and especially in cases of large lesions where immediate excision involve large bone destruction with possible impairment of noble anatomical structures.^(5,18,11,12,15,19-21,23,26)

CONCLUSION

Cystic decompression is a primary approach of large lesions, which allows its resolution or make excision easier and safer avoiding severe complications.

Patient should be informed of all treatment options, as well as the advantages and disadvantages inherent in each technique. It should be made aware of the risk of recurrence and the influence of his compliance on the favorable outcome of the treatment.



Bibliography

1. Fonseca RJ. Oral and maxillofacial surgery. Philadelphia: Saunders; 2009. 2. Sapp JP, Everett LR, Wysocki GP. Contemporary oral and maxillofacial pathology. St. Louis: Mosby; 2004. 3. Carraro RA, Langdon JD, Erwin JW. Surgical pathology of the mouth and jaws. Oxford: Blackwell; 2000. 4. Peterson LJ. Principles of oral and maxillofacial surgery. Philadelphia: Lippincott; 1992. 5. Samir S, Morrison A, Lopes V, Madlen J. Decompression of large cystic lesions of the jaw: a case series. Oral Surgery. 2012;113:17-6. Boudhan N, Jensen V. J. Recurrence of keratocystic and decompression treatment. A long-term follow-up of forty-four cases. Oral surgery, oral medicine, and oral pathology. 1991;72:7. Epe J, Zakrzewska J, M. The conservative management of large odontogenic keratocysts. Br J Oral Maxillofac Surg. 1982;23:8. Popoff MA. Treatment of keratocyst: the case for decompression and marsupialization. J Oral Maxillofac Surg. 2005;63:1667-71. 9. Gattuso MG, Lajolo C, Bocciglini M, Herb KE. Conservative management of a large odontogenic keratocyst: Report of a case and review of literature. Journal of Oral and Maxillofacial Surgery. 2006;64:108-16. 10. Maria A, Sharma Y, Chhabra A. Marsupialization as a treatment option of a large Odontogenic keratocyst: A case report with the review of literature. Prosthetic Journal of Scientific Research. 2012;51:146-51. PubMed PMID: 22151147. 11. Scarron K, da Costa JD, Rebelatto ML, Muller PB, Guggich RC. Treatment of a large odontogenic cyst in a child. Journal of dentistry for children (Chicago, Ill.). 2011;88:792-114. PubMed PMID: 22041117. Epub 2011/11/02. eng. 12. Nakata C, Oswald RJ, Carter LJ. The relationship of lesion size to diagnosis, incidence, and treatment of parapatial cysts and paranasal. Oral surgery, oral medicine, and oral pathology. 1984;Jan;71:82-94. PubMed PMID: 6566098. Epub 1984/01/01. Eng. 13. Vaz LGM, Rodrigues MTV, Ferreira Junior O. Cisto dentígero característico clínico, radiográfico e citológico para o plano de tratamento. RGO: Revista Brasileira de Odontologia (Online). 2010;58:127-30. 14. Mounoud MH, Fatahi KE. Management of odontogenic keratocyst. Br Dent J. 2005 Feb;26:198-41. PubMed PMID: 1573795. Epub 2005/02/26. eng. 15. Anavi Y, Gai G, Miron H, Calderon S, Alon DM. Decompression of odontogenic cystic lesions: clinical long-term study of 73 cases. Oral surgery, oral medicine, oral pathology, oral radiology, and endodontics. 2011 Aug;122:164-9. PubMed PMID: 21104990. Epub 2011/01/05. eng. 16. Chappuis M, Sellam C, Cimpita G. Cystic keratocyst: a study on color. Barcelona: MASSON; 2004. 17. Moore DR, Bhambhani SM. A dentist's dilemma: anatomical endosteic therapy or marsupialization for tooth with apparent pulpal pathology and an associated parapatial radiolucent lesion. Oral surgery, oral medicine, and oral pathology. 1990;Sep;70(3):333-40. PubMed PMID: 2216162. Epub 1990/09/01. eng. 18. Vazagalla B, Arax K. Validity of conventional surgical treatment methods for mandibular dentigerous cysts. Two case reports. The New York state dental journal. 2011 Mar;77(2):36-9. PubMed PMID: 2167870. Epub 2011/06/18. eng. 19. Keller GJ. Odontogenic cysts and tumors of the maxilla: Conservative in marsupialization. Operative Techniques in Otolaryngology, Head and Neck Surgery. 1999;6:102-149. 20. Kubota Y, Iijima J, Hasegawa R, Takemoto Y. Effects of the patient's age and the size of the primary lesion on the speed of shrinkage after marsupialization of keratocystic odontogenic tumor, dentigerous cysts, and radicular cysts. Br J Oral Maxillofac Surg. 2012;09/12. eng. 21. Nevoroth EJ, Burg HA. Decompression of large parapatial cystic lesions. J Endod. 1982 Apr;8(4):175-82. PubMed PMID: 6951918. Epub 1982/04/01. eng. 22. Abdallah WA. Surgical treatment of keratocystic odontogenic tumor: A review article. The Saudi Dental Journal. 2011;22(2):216-5. 23. Mantua SA. Conventional endosteic therapy of upper central incisor combined with cyst decompression: a case report. J Endod. 2007 Jun;33(6):753-7. PubMed PMID: 17808211. Epub 2007/06/19. eng. 24. Kasamarya T, Majeed I, Szymolowska J. A systematic review of the recurrence rate for keratocystic odontogenic tumour in relation to treatment modalities. Int J Oral Maxillofac Surg. 2012 Jun;41(6):756-67. PubMed PMID: 2245416. Epub 2012/03/27. eng. 25. Kobayashi A, Fernandes RP, Paolati A, Orli EA. Odontogenic keratocyst: to decompress or not to decompress? A comparative study of decompression and marsupialization versus resection/periapical osteotomy. Journal of oral and maxillofacial surgery: official journal of the American Association of Oral and Maxillofacial Surgeons. 2007 Apr;65(4):604-4. PubMed PMID: 17368357. Epub 2007/03/21. eng. 26. Linares G, Park N, Saitoh T, Lavery R. Conservative treatment of large cystic lesions of the mandible: a prospective study of the effect of decompression. Br J Oral Maxillofac Surg. 2004 Dec;42(12):1466-70. PubMed PMID: 15544886. Epub 2004/11/17. eng. 27. Swainick JJ, Reyes MI, Gramann RI, Ogbe OE. A technique for long-term decompression of large mandibular cysts. Journal of oral and maxillofacial surgery: official journal of the American Association of Oral and Maxillofacial Surgeons. 2012 Apr;70(4):858-9. PubMed PMID: 21803472. Epub 2011/08/02. eng. 28. Torres-Lagares D, Segura-Egea J, Rodriguez-Caballero A, Llanas-Carreras JM, Gutierrez-Perez JL. Treatment of a large maxillary cyst with marsupialization, decompression, surgical endodontic therapy and enucleation. Journal (Canadian Dental Association). 2011;77:847. PubMed PMID: 21710860. Epub 2011/07/09. eng. 29. Balaji Tardis S. Management of infected radicular cyst by surgical decompression. Journal of conservative dentistry: JCD. 2010 Jul;13(3):159-61. PubMed PMID: 21116394. PubMed Central PMCID: PMC290614. Epub 2010/12/01. eng.

6-9, 16, 17, 19, 20, 22, 25, 27-29