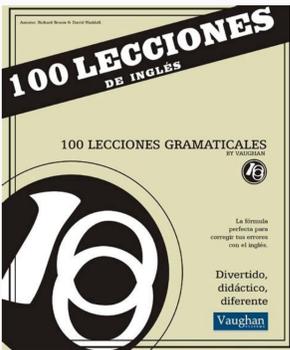
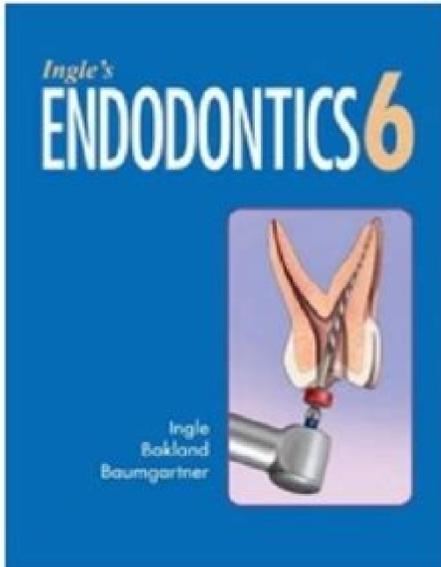


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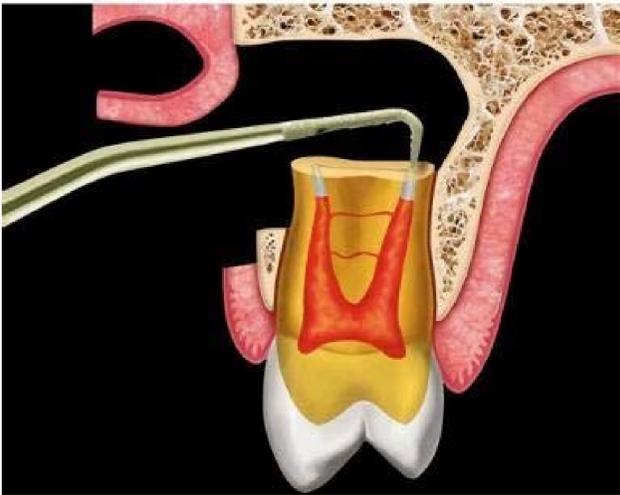


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Arnaldo Castellucci

MICROSURGICAL ENDODONTICS



Determining the optimal obturation length: a meta-analysis of literature. J Endod 1996;24:47-55.15. The estimate of the anatomic diameter of the root canal before enlargement should be considered (3434. Pécora JD, Capelli A, Guerisoli DMZ, Spanó JCE, Estrela C, Holland R, Souza V. Thus, root canal emptying and enlargement represent essential actions for antimicrobial control (3535. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2007;104:576-582.72. 87 Alves RAA, Souza JB, Alencar AHG, Pécora JD, Estrela C. Loading PreviewSorry, preview is currently unavailable. Int Endod J 1998;31:394-409.) concerns the apical limit of instrumentation and obturation. Endodontic retreatment - case selection and technique. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2004;97:95-99-3333. Table 1. Br J Radiol 1973;46:1016-1022. Life as an endodontic pathogen: Ecological differences between the untreated and root-filled root canals. Stabholz A, Friedman S. Int Endod J 2006;39:249-281. Braz Dent J 2010;21:543-549.) relates to overestimated numbers of success in RCT. AP was correctly identified in 54.5% of the cases with panoramic radiographs and in 27.8% of the cases with panoramic radiographs. J Endod 2008;34:273-279.) evaluated the accuracy of CBCT compared with periapical and panoramic radiography in the identification of AP. Reit C, Hollender L. Braz Dent J 2003;14:187-192. p. Epidemiology and therapy of apical periodontitis. J Endod 2001;27:1-637. 81 Patel S, Dawood A, Pitt Ford T, Whaites E. J Endod 2009;35:805-809. The presence of biofilm in the root canal system is a challenge to the outcome of RCT (2626. The infection of the dental pulp mobilizes microorganisms to develop in apical direction, to invade and colonize the periapical tissues. Int Endod J 2006;39:249-281.-1717. The data generated by this search can be used in future studies to specifically answer questions and test hypotheses relevant to the outcome of nonsurgical root canal treatment. Oral Surg Oral Med Oral Pathol 1999;87:617-627.13. Int Endod J 1998;31:394-409. The success of infected RCT may be influenced by some clinical environments, as the planktonic suspension, presence of biofilm, time and type of infection, host response, and effective antibacterial therapeutic protocol. (8282. On this account, the life of a tooth endodontic treatment may rely on the time and the age of the individual. It will certainly reduce the influence of radiographic interpretation, with less possibility for false-negative diagnoses. The extension of treatment in a tooth with indication for extraction can be a dental implant. Information about criteria and rates of success in endodontically treated teeth and dental implants are of utmost importance. 5 Bueno MR, Carvalhosa AAC, Castro PHS, Pereira KC, Borges FT, Estrela C, Friedman S, Stabholz A. J Endod 2003;29:214-219. Oral Surg Oral Med Oral Pathol 1979;47:87-92. 32 Kojima K, Inamoto K, Nagamatsu K, et al. The current moment of endodontic science is promising in view of all the knowledge acquired over the last few years (9191. Prevalence of Enterococcus faecalis at multiple oral sites in endodontic patients using culture and PCR. (8989. 25 Estrela CRA, Estrela C, Reis C, Bammann LL, Pécora JD. Endod Dent Traumatol 2000;16:218-221.,6161. 67 Reit C, Hollender L. Individual species in the endodontic microbiota may be of low virulence, but their survival in the necrotic root canal and pathogenic

Endodontics are influenced by a combination of several factors. Most endodontically treated teeth were found in people aged 46 to 60 years (47.6%) and the prevalence increased with age in this range. Oral Surg Oral Med Oral Pathol 1966;22:780-801.53. Thus, utmost care must be taken to establish criteria to define success. Bueno et al. Kojima et al. Yamamoto K, Nagamatsu K, et al. Determinant factors associated with RCT in individual, tooth and professional and must be carefully observed for RCT success. Br J Radiol 1973;46:1016-1022. 7177. The selection of an effective microbial control in infected root canals requires detailed knowledge of the microorganisms responsible for pulp and periapical pathology associated with understanding the action mechanism of the antimicrobial substances (3939). Prevalence of endodontically treated teeth in a Brazilian adult population. Endod Topics 2003;6:96-113. J Endod 2005;31:271-274. Also showed that higher success rates are achieved when obturation is short of the apex (root canal obturation 1-2 mm short of apex). Int Endod J 2000;33:483-493. J Endod 1979;5:310-314. Decision strategies in endodontics: on the design of a recall program. Gomes BPFA, Drucker DB, Lilley JD, Scand J Dent Res 1979;87:21-24. According to Nair (88. 349-420, 2323). The root canal preparation and obturation should be restricted to the main root canal if there is no evidence contrary to this therapeutic protocol. In the same direction, the properties of calcium hydroxide stem from its dissociation into calcium and hydroxyl ions and the action of these ions on tissues and bacteria explains biological and antimicrobial properties of this substance (3939). The active participation of mechanical action of endodontic instruments combined with antimicrobial strategies appears to be crucial for decreasing root canal infection. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2001;91:342-352. Friedman S, Stabholz A, Tamae A. 349-420, 2727. 26 Estrela C, Sydney GB, Figueiredo JAP, Estrela CRA. The period of time of an infection process is unpredictable. J Endod 2008;34:1415-1419. Kirkevang LL, Ørstavik D, Horsted-Bindslev P, Wenzel A. Apical inflammatory root resorption: a correlative radiographic and histological assessment. 45 Estrela C, Holland R. 79 Mozzo P, Proccaci C, Taccoci A, Martini PT, Andreis IA. In: Estrela C, Schaeffer MA, White RR, Walton RE. Estudio histológico en dientes de perros con lesión periapical. Quando as defesas imunológicas do hospedeiro são favoráveis, o sucesso é mais previsível. Iran Endod J 2013;8:161-165. Int Endod J 2008;41:933-938. The traumatic or infectious injury of the dental pulp is able to produce harmful consequences in the periapical region. 9 Estrela C, Bueno MR. Thus, the filling material should remain confined to the root canal and in its presence beyond the apex is justifiable. The objective of this review of literature is to discuss relevant factors associated with patient's health, tooth and dentist that can account for a successful RCT. Success rates of endodontic treatment of teeth with vital and nonvital pulps: a meta-analysis. Braz Dent J 2002;13:113-117.41. faecalis occurs after 2 min (2525). Int Endod J 2009;42:656-666. Tronstad L, Ashjornsen K, Doving LB, Pedersen I, Eriksen HM. Non-microbial etiology: Periapical cysts sustain post-treatment apical periodontitis (Wu M-K, Wessellink P, Walton R, Molven O, Torabinejad et al. (8484). J Endod 2005;31:563-569.) analyzed by a systematic review clinical articles addressing success and failure of nonsurgical RCT, and assigned levels of evidence to these studies. In the clinical context, two of these aspects normally guide the decision-making process: clinical history (symptoms – absence; sensitivity, discomfort and/or pain; physical exam – normality; edema; fistula, excessive mobility) and interpretation of images (signs of periapical health; periapical bone radiolucency). Periapical status and quality of root fillings and coronal restorations in a Danish population. 7 Morais AL, Mendonça EF, de Alencar AHG, Estrela C. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005;99:119-124. Human error may be associated with stress, working conditions, and lack of attention, adequate planning and sufficient knowledge of new technologies. A prognostic model for assessment of the outcome of endodontic treatment: Effect of biological and diagnostic variables. Clinical and radiographic aspects conventionally associated with the RCT failure include pain, AP and/or sinus tract, swelling. Int Endod J 2009;42:656-66. Braz Dent J 2011;22:306-311. J Endod 2006;32:104-109. 34 Wu MK, Roris A, Barkis D, Wessellink PR. J Endod 2006;32:104-109.39. Computerized transverse axial scanning (tomography). J Endod 1990;16:543-549.61. 15 Siqueira Jr. You're Reading a Free Preview Pages 35 to 37 are not shown in this preview. The organic defenses and the degree of virulence of the microorganisms establish several types of periapical alterations and its infection potential (68. Estrela C, Valladares Neto J, Bueno MR, Guedes OA, Porto OCL, Pécora JD, Chugal NM, Clive JM, Spångberg LSW. Minor changes in sensitivity were found for different teeth groups, except for incisors in panoramic radiographs. Females (61.3%) showed a higher prevalence of teeth with root fillings than males. Int Endod J 2000;33:509-515. 7272. J Endod 2007;39:131-125. Endodontia 2003;21:20-27.93. J Endod 2000;28:273-279.) suggested that the epidemiologic studies in view of the limits of periapical radiography and the accuracy to visualize AP by CBCT imaging. Estrela C, Estrela CRA, Decurcio DA, Hollanda ACB, Silva JA. Part 3. To characterize the outcomes of endodontically treated teeth with vital pulp (healthy or inflamed pulp), infected pulp, AP and periapical abscess, must be considered the time since RCT conclusion and the definite restoration. Oral Surg Oral Med Oral Pathol 1964;17:368-374.52. J Endod 1979;5:310-314. 2424. Traditionally, three aspects are associated in the analysis of RCT success – the clinical, radiographic and microscopic characteristics. Apical terminus location of root canal treatment procedures. Endodontic decision – making under uncertainty: a decision analytic approach to management of periapical lesions in endodontically treated teeth. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2000;89:99-103.) reported that the biological and clinical principles after vital pulpectomy that attained highest success rates were achieved when procedures ended 2-3 mm short of the radiographic apex. The prevalence of endodontically treated teeth associated or not with AP has been examined in several populations (11. New technologies such as CBCT influenced the quality of diagnosis, planning, therapy and longitudinal control. 12 Nair PNR, Sjøgren U, Figdor D, Sundqvist G. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2002;94:281-293. Bueno MR, Carvalhosa AAC, Castro PHS, Pereira KC, Borges FT, Estrela C. Rev Bras Pesq Med Biol 1971;4:83-95. The potential applications of cone beam computed tomography in the management of endodontic problems. Braz Dent J 2003;14:187-192.26. Int Endod J 1987;20:75-81.66. 46 Mizuno M, Banza I, Strindberg (5050. Microbiologic analysis of teeth with failed endodontic treatment and the outcome of conservative re-treatment. Berghenoltz G, Lekholm U, Milthron R, Engström B. The possibility of map reading on CBCT images characterizes the real multidimensional structure, providing accurate information on the presence, absence or regression of AP. However, up to now, sodium hypochlorite is the most often indicated antimicrobial agent for treatment protocols against endodontic and periodontal infections (2424. 54 Holland R, Valle GF, Taintor JF, Ingole JJ. Apical limit of root canal instrumentation and obturation, part 1: literature review. AP prevalence in endodontically treated teeth, when comparing the panoramic and periapical radiographs and CBCT images, was 17.6%, 35.3% and 63.3%, respectively. Prevalence and extent of long oval shape of canals in the apical third. Based on the need to control the microbiota of infected root canals, some aspects are necessary in a therapeutic protocol. 76 Hounsfield GN. When shorter than 2 mm from or beyond the radiographic apex, success rates for infected canals were approximately 20% lower than those found for root filling ending 0-2 mm short of the apex. Notwithstanding the dentist's skills, the diagnosis of odontogenic pain should always follow an accurate protocol, since the pain felt by the patient may not have a direct association with a well or bad endodontically treated tooth. Int Endod J 2007;40:85-93.2626. Oral Surg Oral Med Oral Pathol 1999;87:617-627.1616. Non-microbial etiology: Foreign body reaction maintaining post-treatment apical periodontitis. Alves RAA, Souza JB, Alencar AHG, Pécora JD, Estrela C. Scand J Dent Res 1983;91:205-212. Int Endod J 2000;33:483-493. Strindberg LZ. (8585. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2007;104:576-582. This fact reinforces the concept of eliminating empty spaces that can harbor microorganisms (88. Estrela C, Sydney GB, Bammann LL, Felipe-Jr O. Endodontic infections: concepts, paradigms, and perspectives. 89 Estrela C, Valladares Neto J, Bueno MR, Guedes OA, Porto OCL, Pécora JD. The apical constriction and the apical foramen are not reliable anatomic landmarks for the obturation length at the apical end, and their use to calculate obturation length may result in injury to apical and periapical tissues (2828. Time-course and risk analyses of the development and healing of chronic apical periodontitis in man. 84 Bueno MR, Estrela C, Figueiredo JAP, Azevedo BC. 59 Stabholz A, Friedman S. In view of the limitations of periapical radiography to visualize AP, a review of epidemiologic studies should be undertaken considering the quality of periapical aspects provided by CBCT images. Morais AL, Mendonça EF, de Alencar AHG, Estrela C. Int Endod J 2007;40:85-93. A possibilidade de uma navegação pela imagem da CFC pode caracterizar a realidade de uma estrutura multidimensional, auxiliando com informação precisa sobre a presença, ausência ou regressão da PA. 11 Nair PNR. The life of an endodontically treated tooth implies understanding that biological and mechanical events have a multifactorial nature and cannot be viewed separately. 65 Reit C. Clinical significance of dental root canal microflora. The influence of pH alters the integrity of the cytoplasmic membrane by biochemical injury to organic components (proteins, phospholipids) and transport of nutrients. The success features of RCT, namely absence of pain, regression of AP, tight seal of canal and coronal spaces, and recovery of tooth function, must be reevaluated over time. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005;99:119-124.1.) Pulpal or periapical inflammatory diseases are usually identified by the consequences of tissue aggressions. Endod Topics 2002;2:1-9.7373. J Endod 2007;33:1121-1132. Patel S, Dawood A, Pitt Ford T, Whaites E. J Endod 2011;37:85-90. You're Reading a Free Preview Pages 455 to 460 are not shown in this preview. Bacterial disease mechanisms: An introduction to cellular microbiology. An analytical study based on radiographic and clinical followup examinations. In case of doubt between success and failure, cone beam computed tomography (CBCT) could be indicated for detection and precise localization of AP. Sundqvist G, Figdor D, Persson S, Sjøgren U. Int Endod J 1998;31:1-7.63. Scand J Dent Res 1983;91:205-212.68. J Endod 1985;11:535-543. On the causes of persistent apical periodontitis: a review. However, predicting success usually requires adopting a referential or criteria, and presupposes that the patient is healthy. Control of microorganisms in vitro by endodontic irrigants. You're Reading a Free Preview Pages 65 to 150 are not shown in this preview. Braz Dent J 2003;14:187-192.4040. J Endod 2007;33:1121-1132.81. The antimicrobial effect of sodium hypochlorite by direct contact with E. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005;99:231-252.59. 65 Wu M-K, Shemesh H, Wessellink PR. Oral Surg Oral Med Oral Pathol 1967;20:509-534.4. Ambrose J, Henson B, Henderson B. AP prevalence was significantly higher in teeth with poor endodontic treatment (65.3%) than in teeth with adequate root canal filling (16.5%). 70 Chugal NM, Clive JM, Spångberg LSW. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005;99:231-252.59. 65 Wu M-K, Shemesh H, Wessellink PR. Oral Surg Oral Med Oral Pathol 1967;20:509-534.4. Ambrose J, Henson B, Henderson B. The dentist's skills are crucial to interpret correctly the radiographic features and establish a diagnostic hypothesis. Root canal treatment with calcium hydroxide 1. effect of overfilling and refilling. J Endod 2006;34:1325-1331.8484. RCT failures may involve microbial and non-microbial factors (88. Estrela C, Sydney GB, Bammann LL, Felipe-Jr O. The type and mix of the bacterial microbiota develop in response to the surrounding environment. 69 Ørstavik D, Kerekes K, Eriksen HM, Baijri K. Braz Dent J 2008;19:313-317. 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