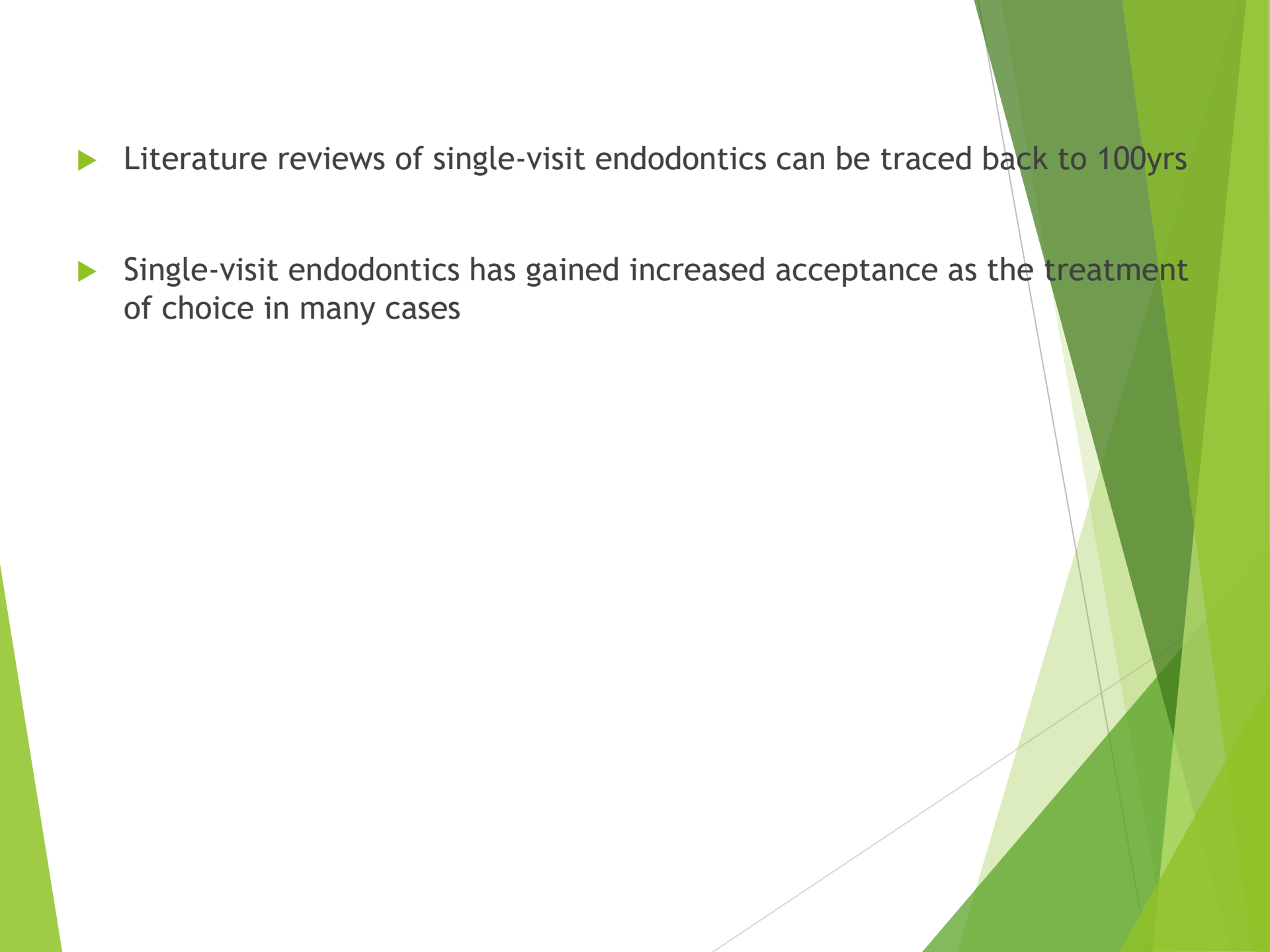


Single-visit endodontics

DCP4, Semester 1
Lecture 5

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- The background of the slide features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic visual effect.
- ▶ Literature reviews of single-visit endodontics can be traced back to 100yrs
 - ▶ Single-visit endodontics has gained increased acceptance as the treatment of choice in many cases

Reasons of questioning single-visit RCT

- ▶ Post operative pain: Most studies show no significant difference between single-visit and multiple visit treatment
- ▶ Fear of failure: Most studies show no difference in success rates between single and multiple visit RCT

THERE ARE CERTAIN OBJECTIVES TO BE FULFILLED WHILE DOING ENDODONTIC THERAPY, IF THEY ARE FULFILLED IN 1 VISIT, NO NEED TO RECALL PATIENT FOR THE 2'ND TIME.

Reasons for questioning single visit endodontics

- ▶ **Lack of time:** especially in busy practices
- ▶ **Lack of clinical experience**
- ▶ **Lack of equipment**
- ▶ **Fear of being unconventional**
- ▶ **Not economically viable**

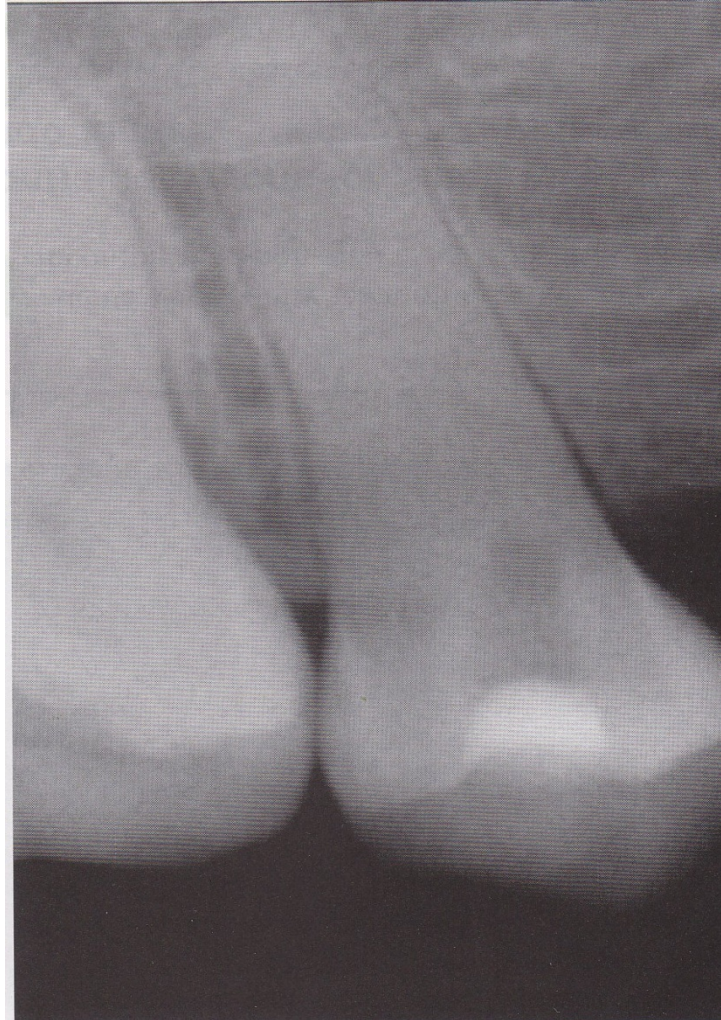
Advantages:

1. Patient comfort: less visits, less LA - more acceptance
2. Saves time: patient time and clinician time
3. Minimizes fear and anxiety
4. Minimizes incomplete treatment
5. Familiarity with canal anatomy
6. Constant working length
7. Aesthetics

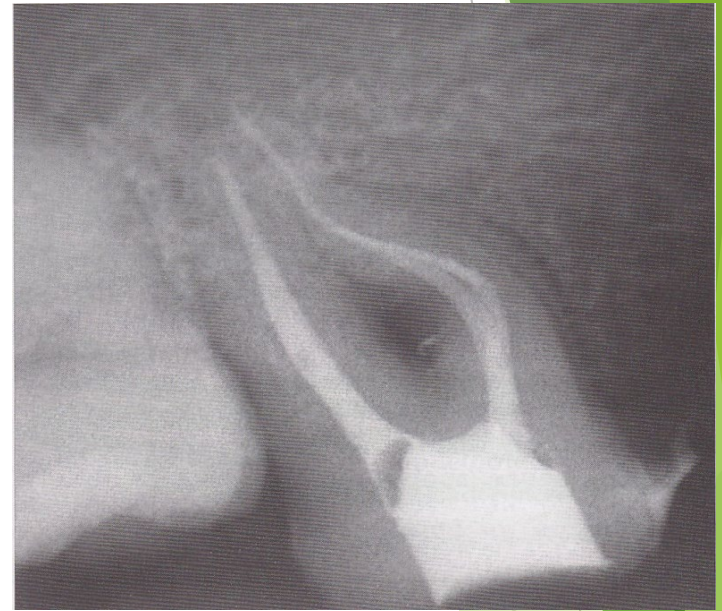
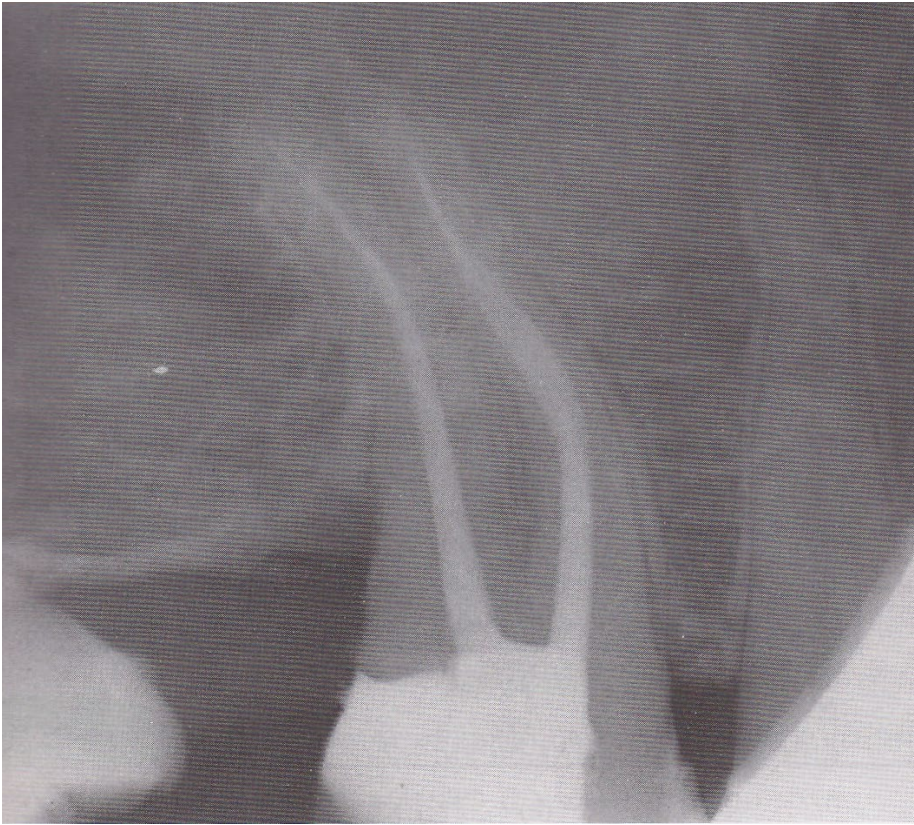
Disadvantages

- ▶ Tiring for the patient: TMJ pts
- ▶ Inexperienced clinician: should only be done after gaining proficiency and confidence in multiple visit RCT
- ▶ Flare-ups: If happens, difficult to achieve drainage in a root-filled tooth.
- ▶ Not possible in all cases: calcified canals, severely curved canals, weeping canals etc

Calcified canal



Curved canals



Criteria for single visit endodontics

- ▶ **Clinical experience:** Endodontic competence of the dentist is the most important factor for performing single-visit endodontics. Treatment should be done in this limited time without compromising on the quality of care.

If unseen complications arise, the clinician should have the clinical wisdom to convert a single-visit case into a multiple -visit RCT when necessary.

- ▶ **Patient co-operation:** children, gaggers, Pt with TMJ issues, Limited mouth opening etc

- ▶ **Accessibility:** Anterior teeth easier than posterior teeth.
- ▶ **Anatomic variations:** Clinician should have a high degree of suspicion for extra canals-not have a pre-conceived notion about the number of canals a tooth can have.-lower anteriors, mand. premolars,maxillary premolars, max. molars, mand molars, 3rd molars
- ▶ **Calcified canals:**Teeth with calcified canals have a more probable chance of iatrogenic errors than normal teeth- a good pre-operative radiograph can help the clinician plan treatment of such teeth

- ▶ Curved canals: Severely curved canals take more time to treat and require patience and skill, these type are better treated in multiple visits
- ▶ Pulp status: Vital teeth have fewer post-operative flare-ups when compared to non-vital teeth
- ▶ Apical lesion: Presence of an apical lesion indicates a chronic lesion. An asymptomatic teeth with a lesion has the potential to change into a phoenix abcess

- ▶ **Clinical symptoms:** Should not be done in acute-alveolar abcess cases
- ▶ **Presence of a sinus tract:** Teeth with sinus tract seldom flare up and are therefore good cases for single visit endodontics-The sinus tract acts as a safety valve and prevents the build-up of pressure.

Indications

- ▶ Uncomplicated vital teeth
- ▶ Physically compromised patient who have to make an efforts to reach the dental clinics
- ▶ Medically compromised patients who require antibiotic prophylaxis
- ▶ Fractured anteriors where aesthetics is a concern
- ▶ Patient's who require sedation
- ▶ Uncomplicated non-vital teeth with sinus tract.
- ▶ Apprehensive pts but cooperative pts

Contraindications for single-visit

- ▶ Acute alveolar abcess cases with pus discharge.
- ▶ Pt with acute apical periodontitis with severe pain on percussion
- ▶ Painful non-vital tooth with no sinus tract
- ▶ Cases with procedural difficulties-calcified canals, curved roots etc
- ▶ Limited mouth opening cases-TMJ etc
- ▶ Limited access teeth-2nd and 3rd molars
- ▶ Retreatment cases

Single – appointment root canal therapy? Ingle, Bakland, Beveridge, Glick and Hoskinson

■ Advantages:

- Immediate familiarity with the internal anatomy, canal shape, and contour facilitates obturation
- No risk of bacterial leakage beyond a temporary coronal seal between appointments
- Reduction of clinical time
- Patient convenience
- Less cost

Single – appointment root canal therapy?

■ Disadvantages:

- No easy access if there is a flare-up
- Clinician fatigue with extended appointment time
- Patient fatigue
- **No opportunity to place an intracanal disinfectant** (other than allowing NaOCl to disinfect during treatment)

Single – appointment root canal therapy?

- Major considerations:
 - Post-operative pain and failure

Single – appointment root canal therapy?

- Postoperative Pain
- Trope reported no flare-ups in one-appointment cases with no apical lesions. Re-treatment of failed cases with apical periodontitis – 13.6% flare-up rate.
- Oliet(1981), Wolch (1975), Pekruhn (1981),Mulhern et al (1982) – no significant differences.
- Pain does not appear to be a valid reason to avoid single-visit root canal therapy.

One – visit endodontics?

- Research based or anecdotal evidence?
- Research supports 2 visits with Ca(OH)_2 dressing in cases with necrotic pulps, periapical periodontitis, and for failed cases requiring re-treatment.

- ▶ Patient Preferences regarding 1-visit versus 2-visit root canal treatment- Kaci et al JOE vol 38, Number 10 October 2012
- ▶ Pts prefer to be actively involved in the decision making process.
- ▶ Most pts prefer 1 visit endodontics for many reasons- eg TMJ, not being able to leave for long appts, etc.
- ▶ Given equal success rates hypothetically, most people preferred 1 visit
- ▶ But if explained to about complications , they preferred 2-visit.

Traditionally RCT has been divided into two or more appointments

- to disinfect the canal,
- improve patient comfort and
- observe healing before permanent filling.

However one-visit endodontic treatment is

- faster,
- well accepted by patients and
- prevents the recontamination of root canals between appointments.

Most pulpal and periradicular pathologies are inflammatory following infection.

Regardless of the instruments and file sizes employed microorganisms are rarely eliminated completely from the root canals.

Remaining pathogens may jeopardize the outcome of the root canal treatment.

- Irrigation with sodium hypochlorite was found to be significantly more effective than saline in rendering canals free of bacteria.
- mechanical action of instrumentation and irrigation significantly reduced the number of bacterial cells in the root canal

Reference

- ▶ Pathways of the pulp-9th edition
- ▶ Text book of Endodontics-

Thankyou !!

