



Dr. Anish Naware

Dr. Anish Naware, is a dedicated, focused clinician as an Endodontist for the past 37 years in Mumbai, Educator for the past 25 years & national & international speaker of repute. He is recipient of four awards towards the contribution to making Modern Endodontics more popular in the interior parts of India. He is Post - Graduate in Conservative Dentistry and Endodontics (1985) and founder of Integrated Endodontic Centre, Thane (Clinical endodontics & weekend continuing dental education programs), first of its kind in India (Estd. Yr. 2000). He has introduced Modern Endodontics and tapered preparations in India. He has conducted more than 450 hands-on courses for 6000 dental surgeons all over India and is a Keynote Speaker at many national & international level conferences. He has lectured and conducted hands on in Malayasia, UAE, Oman, Sri Lanka & UK. He is recipient of 'Thane Gaurav Award' 2006 from the Mayor of Thane and 'Thane Manbindu Award' 2007. He has worked as a Microendodontist in Breach Candy Hospital - Mumbai 2003 to 2008. And worked as a chief Consultant at Bhatia Hospital - Mumbai as a Microendodontist from 2011 to 2016. He has been the Executive Editor for "Famdent Endodont" Year 2013 - 19. He has 2 patented designs on endo instruments to his credit and recipient of Bite - In Award for Best Clinician - year 2016 and "DDI Aarogya Sanman" Year 2021 - Dr. R. Ahmed Award, recipient of Educator of the Year 2024, Famdent FEDA 2024 Award.

Introduction

We used to perform root canal treatment in multiple visits. I still remember, some of the root canals used to take 4 to 5 visits, science was not matured enough in year 1985 like today in 2025. Since root canal therapy was multiple visits, role of intracanal medicament was introduced. It was assumed that infection in the root canal should be treated with antibacterial medicament. And drugs or medicines like camphor phenol, formecresol, multiple antibiotic paste, steroids were extensively used in root canal therapy. As crown down technique was introduced in year 1994, science of endodontics evolved. Mindset of conventional technique was replaced by crown down and greater taper technique. But since both the mindsets are pole apart but fundamental, there is lot of confusion among clinicians till today. That is why failure of endodontic

therapy is seen in clinics. Let us discuss the role of intracanal medicament in this article.

Few Previously Used Intracanal Medicaments And Their Limitations

- 1. Camphor Phenol (CMCP)** - Very effective bactericidal but very strong irritant to periapical tissue. Patients gets severe pain after the visit.
- 2. Formecresol (Formalin + Cresol)** - This combination is a fixative. One should avoid any fixatives in endodontics. Science of endodontics says create a healthy environment to allow periapical healing. One should never think of fixing the infection but should help it heal. These fixatives give post-operative pain due to irritation.
- 3. Multiple Antibiotic Paste** - One should never use topical antibiotic in endodontics. Every antibiotic should be calibrated according to the weight of the body. That is why doses of antibiotics are calculated for 5 to 10 days. If you do not use calculated doses like in intracanal medicament, then it may create a mutant for that particular patient. WHO has banned use of antibiotics in root canal therapy as intracanal medicament. Every clinician should follow this to avoid harm to their patients.
- 4. Steroids** - Any Anti inflammatory action for short time is permissible. But long term steroids like sealants are contraindicated. There steroids may interfere healing of periapical lesion, since healing needs inflammation. One should avoid any form of Steroids in Endodontics for long action.

Understanding Of Cleaning and Shaping

Paramount in endodontics is cleaning and shaping. If you do not reach the apex and do not shape the canal with tapered instruments, outcome of the treatment is questionable. Agitation of chemicals is also equally important in cleaning and shaping. Due to these newer philosophies, role of intracanal medicament is reduced.

Alkaline Shock By Calcium Hydroxide

It is seen in clinics that after putting Ca(OH)_2 in the canal as a intracanal medicament some patients develop

severe pain in few hours. Alkaline shock is seen in patients with Ca(OH)_2 due to pH of Ca(OH)_2 which is 12. These higher concentrations of alkali can induce severe pain. In endodontics, both calcium hydroxide and silicate-based materials are widely considered for temporary root canal fillings but they serve slightly different purposes. Calcium hydroxide has been the traditional choice due to its strong antibacterial action and high alkalinity (pH around 12). This highly alkaline environment is effective in neutralizing microbial activity and stimulating periapical healing by encouraging hard tissue formation. However, the same intense alkaline release can sometimes irritate periapical tissues, especially when extrusion occurs beyond the apex. Another limitation of calcium hydroxide is its high solubility and lack of long-term dimensional stability, which reduces its sealing ability and makes it less reliable as a stand-alone temporary filling material.

On the other hand, silicate-based materials (such as calcium silicate cements or bioceramics) have gained increasing preference for temporary fillings because they release calcium ions in a controlled manner and maintain a moderate alkaline pH that is less aggressive to tissues (Fig 1.)

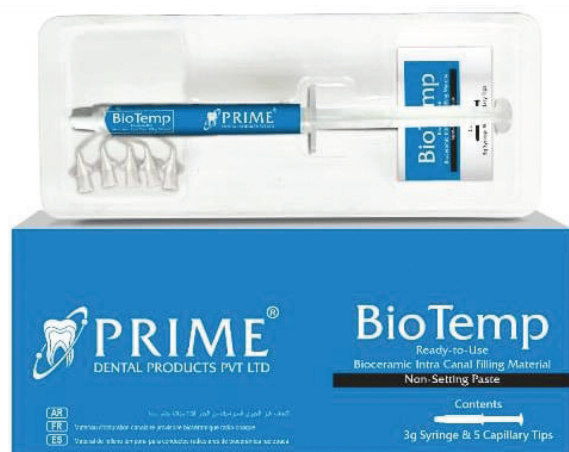


Fig. 1 Bioceramic Intra Canal Temp.

They provide excellent sealing ability, dimensional stability and sustained bioactivity, making them more predictable in maintaining a tight coronal or apical barrier. Their biocompatibility also reduces the risk of periapical irritation. Thus, while calcium hydroxide remains valuable as an intracanal medicament, silicate materials are generally preferable when a stable, biologically friendly temporary root canal filling is required.

Conclusion

It is proved that success of endodontics treatment depends on quality of cleaning and shaping. Shaping facilitates cleaning. Once you remove the debris pulp tissue and biofilm by sodium hypochloride and aqueous EDTA or citric acid, role of intracanal medicament is nullified. But if you are calling patient second time, instead of keeping canal empty, you can keep Ca(OH)_2 as a intracanal medicament and **BioTemp Prime Dental** is non setting MTA which will replace Ca(OH)_2 in future endodontics. But one has to understand that if you are unable to remove pulp tissue from canal then no intracanal medicament will be useful in disinfecting the canal. Intracanal medicament will never achieve success unless cleaning & shaping is faultless. So intracanal medicament concept will always remain as an adjunct therapy. Working length, patency, apical gauging, tapered preps and agitation of NaOCl, aqueous EDTA are more important.