



MANAGEMENT OF DISCOLOURATION IN MAXILLARY ANTERIOR TEETH USING MC INNES SOLUTION -A CASE SERIES

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ABSTRACT :Vital bleaching offers a conservative, simplified, and cost-effective approach to improve tooth color. This case series presents a successful vital bleaching treatment of discolored teeth using in-office bleaching technique, resulting in a remarkable change in tooth color and enhancing the patient's smile and overall satisfaction. The treatment highlights the benefits of in-office bleaching in achieving optimal aesthetic results, making vital bleaching a reliable and effective treatment modality for improving discoloured teeth.⁶

KEYWORDS: Vital bleaching, Hydrogen peroxide, In-office bleaching, discoloration, McInnes solution.

INTRODUCTION : Tooth discoloration is a common concern among younger patients, prompting dental visits. Various treatment options are available for management of discoloration of teeth. They are vital bleaching, microabrasion, macroabrasion, composite veneers, porcelain veneers and crowns etc. Bleaching is a conservative approach for discolored teeth. McInnes solution offers an economical and conservative treatment alternative for managing tooth discoloration¹. This case series presents successful outcomes of using McInnes solution as a treatment modality for discolored teeth.

Dental fluorosis is a tooth malformation characterized by outer hypermineralization and subsurface hypomineralization, resulting from chronic ingestion of fluoride during tooth development². This condition becomes a cosmetic concern, particularly when it affects the anterior teeth, impacting the individual's self-esteem and overall smile appearance.⁹

The selection of an appropriate treatment plan depends on the severity of fluorosis. For mild and moderate fluorosis cases bleaching and microabrasion have been recommended as effective treatment options. These conservative approaches can help to improve the appearance of affected teeth, enhancing the overall aesthetic outcome.⁵

CASE REPORT 1 :

A 18-year-old female patient presented with complaints of discoloration . Upon examination, it was diagnosed as dental fluorosis. There was no associated pain or swelling.

A treatment plan was devised to address the discoloration, involving bleaching with McInnes solution followed by macro-abrasion. The patient was thoroughly informed about the procedure, including potential outcomes such as hypersensitivity, minor stains, and pits. Preoperative photographs were taken, and oral prophylaxis was performed.

To prevent chemical injury to adjacent gingival and mucosal tissues, petroleum jelly was applied. Isolation done with rubberdam. The McInnes solution, comprising 5 parts 30 % hydrogen peroxide, 5 parts 36%

hydrochloric acid, and 1 part diethyl ether, was prepared immediately prior to the procedure to ensure effectiveness.

Figure 1: Pre operative view

Figure 2 : Post operative view



The solution was applied to the teeth using cotton buds for 5-10 minutes, with intermittent intervals. The process was repeated until the stain disappeared. Copious irrigation was performed using an air-water syringe, and the rubber dam was removed. Polishing was done with a polishing paste, and remaining minor pits were removed through macro-abrasion using a flame-shaped grit.

Postoperative photographs were taken, and the patient was instructed to avoid consuming colored foods and drinks for two weeks. Throughout the procedure, only plastic instruments were used to prevent corrosion of stainless steel instruments.

CASE REPORT 2 : A male patient of age 15 years reported with yellowish discoloration of teeth in upper front teeth region. On examination it was diagnosed as dental fluorosis in 11,12 21 and 22.vital bleaching done using McInnes solution.



Figure 1: Pre operative view

Figure 2 : Post operative view

CASRE REPORT 3 ;

A female Patient of age 18 years reported with complaint of yellowish discoloration of upper front teeth . On examination it was diagnosed as dental fluorosis in 12 and 22.Vital bleaching done in 12 and 22 using McInnes solution.



Figure 1 : Pre operative image

Figure 2 : Post operative image

CASE REPORT 4

A 18 year male patient reported with chief complaint of brownish discoloration of upper front teeth.On examination it was diagnosed as dental fluorosis in 11,12 21 and 22.Two visits of vital bleaching done using Mc Innes solution.patient was instructed to avoid consuming colored foods and drinks for two weeks.



Figure 1 : Pre operative image

Figure 2 : Post operative image

DISCUSSION

Tooth discoloration can be categorized into intrinsic, extrinsic, combined, or internalized forms, resulting from dentist-related or tooth-related causes⁴. Effective management of discoloration relies on accurate diagnosis, etiology, and selection of suitable treatment options, ranging from invasive procedures like crowns and veneers to minimally invasive therapies such as macro-abrasion, micro-abrasion, and bleaching.

Bleaching involves the lightening of tooth color through chemical agents that oxidize organic pigmentation. In-office bleaching and dentist-prescribed home bleaching are two commonly used whitening procedures.⁹ Various materials are available for tooth bleaching, including McInnes solution, which is a cost-effective, viable, and relatively safe option for treating intrinsic stains and discoloration.

The McInnes solution comprises 30% hydrogen peroxide, 36% hydrochloric acid, and 0.2 % diethyl ether. Freshly prepared solution is used for the procedure, and protection of adjacent soft tissue is crucial⁷. The

treatment process is relatively fast, with results evident after a single visit. Bleaching with McInnes solution offers an aesthetically pleasing and minimally invasive option for young patients.⁵

This solution has several advantages, including less expensive, reduced chairside time, and immediate treatment results. With proper isolation using a rubber dam, McInnes solution can be applied to either the entire dental arch or isolated tooth. Dentists can control the treatment process, and potential side effects like mild demineralization, metallic taste sensation, and post-operative sensitivity can be managed with proper precautions and desensitizing toothpaste.

CONCLUSION :

The present case series demonstrates the efficacy of McInnes solution as a conservative and economical treatment option for managing discoloration⁸. The successful treatment outcomes observed in this series suggest that McInnes solution can be considered a viable alternative for addressing mild to moderate discoloration and fluorosis stains in routine clinical practice¹⁰. Its economic viability and conservative approach make it an attractive option for patients seeking aesthetic improvement without extensive intervention.

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