Product	Manufacturer (Batch number)	Mechanism of action	Composition	Teeth	Clinical Sequence	Mode of use in **office**	Number of appointments
Dessensibilize KF 2%	FGM 100-0045	The neural action and occlusion of the dentinal tubules	Potassium Nitrate (5%) and Sodium Fluoride (2%)	63, 65, 74, 75	Relative isolation with cotton rolls + Dental prophylaxis + Dessensibilize KF 2% application	After clean, rinse and dried the teeth. Applied the gel with micro brush – Wait 10 minutes. Remove the excess with cotton roll.	02
				63, 65, 74, 75	Relative isolation with cotton rolls + Dental prophylaxis + Dessensibilize KF 2%		
Seal and protect varnish	Dentsply 0100042	Occlusion of the dentinal tubules	A self- etched light-curing triclosan containing dental varnish	53, 55, 84, 85	Relative isolation with cotton rolls + Dental prophylaxis + Seal Protect application	Applied with micro brush and light-cured for 20 s.	01

Note. Seal & Protect's composition: PENTA -Adhesion promoter, wetting aid and crosslinker MA resins Di- and trimethacrylate resins forming strong protective coat. 1DQR¿OOHU8OWUD¿QH IXQFWLRQDOL]HG ¿OOHU IRU LQFUHDVHG DEUDVLRQ UHVLVWDQFH RI WKH FXUHG VWRUDJH &$+))OXRULGH VRXUFH RUJDQLF DPLQH ÀXRULGH $FHWRQH 6ROYHQW DQG FDUULHU IRU

Table 1: 6SHFL¿FDWLRQV RI GHVVHQVLELOLVHUV XVHG LQ WKLV FDVH

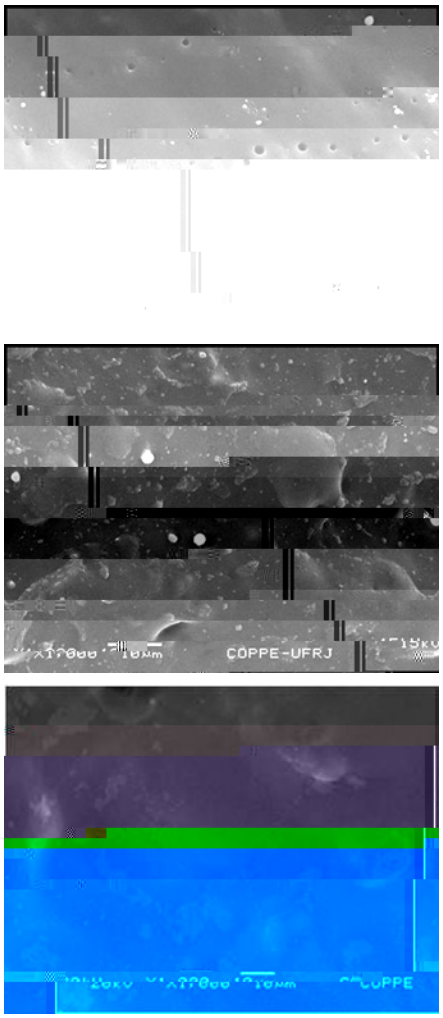

Figure 3: Before treatment, it could be seen a dentine hypersensitivity with opened dentinal tubules. (A) After one week of treatment, it could be seen a dentine-Seal & Protect complex layer. (B) Sealed the majority of dentinal tubules after one week which remained after 18 months. (C) During this period, the complex layer suffered from both mechanical and chemistry wear, producing a smoother surface (C).

tubules system and provoke sensitivity. For this reason, in this report such approach was not performed.

Fluoride varnishes act as another minimally invasive approach for dentinal hypersensitivity management and additionally, they help to prevent and control dental caries as suggested by others researcher [5]. However, it is important to point out that Calcium uoride (CaF_2) precipitates on the outer dentin surface, and seems to be easily removedaway from this surface by saliva and/or by tooth brushing. is phenomenon can reopen the dentinal tubules and trigger dentinal hypersensitivity [7]. For this reason, the authors of the present study selected two topical desensitizing agents with di erent mechanisms of action in order to lead to an immediate and a long lasting desensibilization.

Both desensitizing agents were able to relieve dental pain in the present case report. e self-etching light curing dental varnish showed many advantages in relation to Potassium Nitrate with Sodium Fluoride ion gel because it requires only one dental appointment to be applied (Table 1). It promoted the occlusion of dentin tubules by resin tags formations and by the thin layer of polymerized resin at the surface leading to an immediate (Figure 3B) and a long lasting desensibilization (Figure 3C). Di erently, Potassium Nitrate with Sodium Fluoride ion gel acted as nerve-inhibiting agent as proposed by previous study [7]. Furthermore, the occlusion of the dentinal tubules by the Sodium Fluoride ion (2%) action decreased the dentinal hypersensitivity. e dentinal tubules seemed to be occluded by round Calcium Fluoride crystals deposited on the dentinal surface (Figures 4B and 4C) what reduces the uid ow to the pulp. Another possible explanation for the long desensitizing action of Sodium Fluoride ion is the biochemical blocking of neural transmission by labile excess uoride in the organic matrix of dentin [7]. But, this mechanism needs further investigations.

According to Canadian Advisory Board on Dentin Hypersensitivity [4], dentine hypersensitivity in children is an important problem that needs management, especially since pain is involved. It suggests th least invasive treatments are usually advocated rst followed by the professionally applied treatments [4]. Many authors used resin-based restorations to treat dentinal hypersensitivity. However, considering dental enamel defects, the hypomineralized dental substrate is fragile, so and can break easily. us, a weak long-term bonding to dentin

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