EFFECTIVENESS OF SYSTEMP.DESENSITIZER IN CONTROLLING DENTINAL HYPERSENSITIVITY WITH AND WITHOUT AN ACID ETCH STAGE

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INTRODUCTION

- The effective treatment of dental emergencies has been considered to be a practice builder[1] and dentinal sensitivity was the fifth most common presenting emergency seen by a group of practitioners surveyed on the provision of emergency dental care[2]. It has also been reported that between 5 - 57% of the adult population suffer from dentinal hypersensitivity[3].
- This multi-centre open clinical evaluation reports the effectiveness of Systemp.desensitizer (Ivoclar-Vivadent, Schaan, Liechtenstein), when used both with and without an acid-etch step, in the treatment of dentinal hypersensitivity in UK dental practices.

PRODUCT

- Systemp.desensitizer (Ivoclar Vivadent) contains polyethylene glycol dimethacrylate and glutaraldehyde in an aqueous solution.

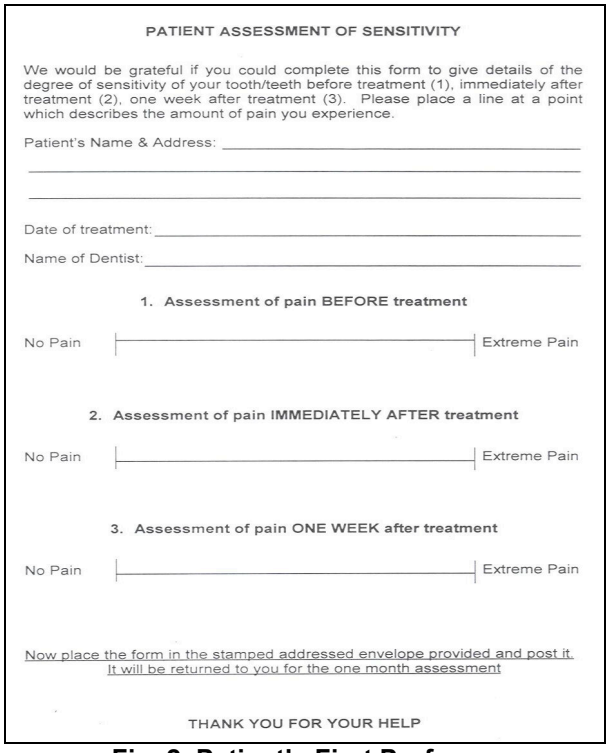
Fig. 1 Systemp.desensitizer package

INVESTIGATION TEAM

- The ten general dental practitioners (GDPs) participating in this study were members of two practice based research groups: a) BRIDGE (Birmingham Research In Dental General Practice) and b) the PREP (Product Research and Evaluation in Practice) panel, a group experienced in practice based evaluations and clinical trials [4.5]. Each GDP's used Systemp.desensitizer in the treatment of 10 patients, each, who presented with pain diagnosed as dentinal sensitivity.

EVALUATION OF PAIN

Patients were asked to complete a proforma using a 10cm visual analogue scale (where 0cm = "no pain" and 10cm = "extreme pain"). Only patients who returned the 24 h and 1 week proforma were sent 1 month evaluation forms and so on.



PATIENT ASSESSMENT OF SENSITIVITY

We would be grateful if you could complete this form to give details of the degree of sensitivity of your tooth/teeth before treatment (1), immediately after treatment (2), one week after treatment (3). Please place a line at a point which describes the amount of pain you experience.

Patient's Name & Address: _____

_____

_____

Date of treatment: _____

Name of Dentist: _____

1. Assessment of pain BEFORE treatment

No Pain |——————————| Extreme Pain

2. Assessment of pain IMMEDIATELY AFTER treatment

No Pain |——————————| Extreme Pain

3. Assessment of pain ONE WEEK after treatment

No Pain |——————————| Extreme Pain

Now place the form in the stamped addressed envelope provided and post it. It will be returned to you for the one month assessment

THANK YOU FOR YOUR HELP

Fig. 2 Patient's First Proforma

STUDY DESIGN

Group A	Group B
Pre-treatment evaluation of pain	
Isolate the tooth and gently blot dry with cotton wool pellets	
	Etch treatment area for 15s with 35% phosphoric acid
Rub in Systemp.desensitizer for 20s, then gently air dry	
24 h post-treatment evaluation of pain	
1 week post-treatment evaluation of pain	
1 month post-treatment evaluation of pain	
3 months post-treatment evaluation of pain	

RESULTS

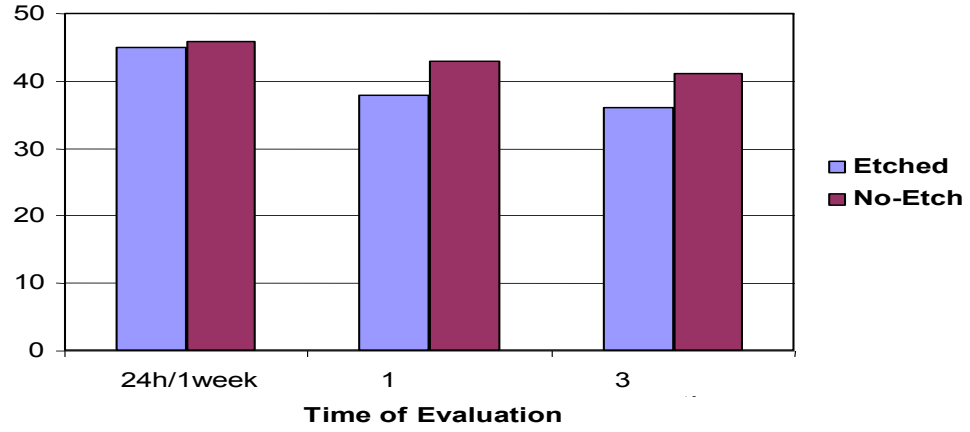
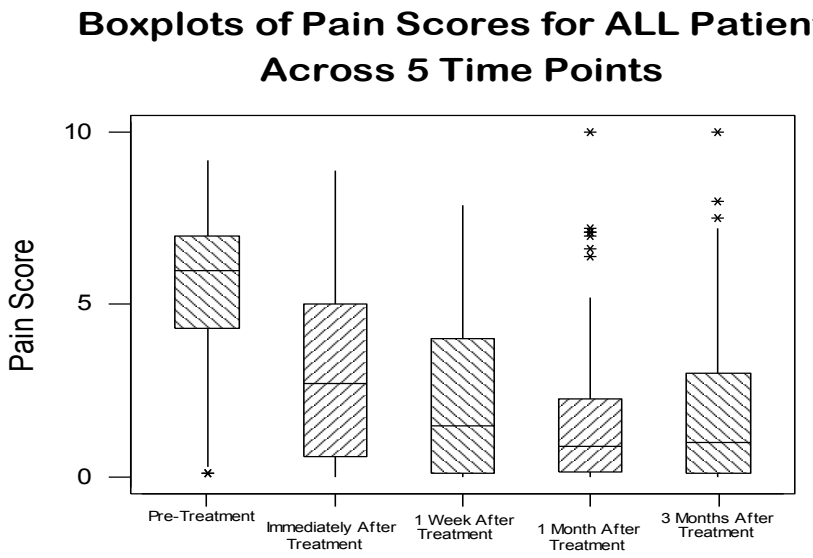
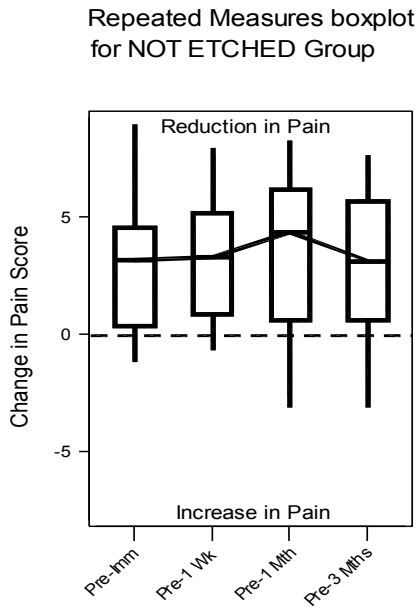


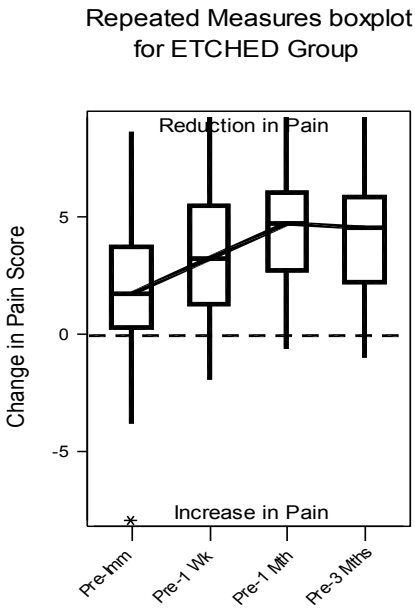
Fig. 3: Number of Patients returning Self-evaluation Proforma.

- A two-sample t-test of the means for E and NE groups confirmed that ***before treatment*** commenced, there was no significant difference in the mean pain scores for the two groups.
- Overall, about 80% of patients reported a sharp reduction in pain ***immediately after treatment*** (80% for NE, 78% for E). Patients in the E group however indicated a smaller reduction in pain at this time than in the NE group.
- At ***one week*** after treatment about 90% of patients (91% for NE and 87% E) reported pain reduction
- After ***one month*** 91% of patients (88% for NE and 95% for E) reported reduction in pain. Again, the reduction in pain for the NE group remained consistent but the E group showed further reduction in pain.

STATISTICAL ANALYSIS







SUMMARY

- Overall, there was a significant reduction in pain at each of the time points after treatment but the average pattern of pain reduction across the two groups was different.

- The non-etched group saw an immediate reduction whilst etched group took longer to see a reduction in pain but there were no statistically significant differences between the reductions in pain scores between the two groups at any of the time points after treatment.

It is concluded that Systemp.desensitizer was effective in reducing pain from dentinal hypersensitivity in the patients treated, and this was unaffected by whether the tooth was acid etched prior to resin application.

ACKNOWLEDGEMENT
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