COMMENT

Letters to the editor

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Endodontics

Sodium hypochlorite test

Sir, sodium hypochlorite (NaOCl) solution is highly cytotoxic and leads to devastating consequences when injected or extruded into surrounding tissues. Despite recommended precautionary measures, many such cases have been reported. NaOCl and other solutions such as local anaesthetic (LA), distilled water, saline, and ethylenediamine tetra-acetic acid (EDTA) are mostly colourless, clear, and transparent. Hence, NaOCl can be wrongly dispensed as, or easily mistaken for, these solutions and accidentally injected as LA or extruded due to casual or forceful delivery into a root canal assuming it is another irrigant.[1,2] Even an experienced clinician may find it difficult to identify NaOCl when these solutions are loaded and/or dispensed in a delivery device. Accidental injection or extrusion of NaOCl is a serious iatrogenic error with potential medico-legal implications, and the onus lies with the clinician to prevent it. In this regard, I have presented a clinical method in the form of a dental bib sheet test (Fig. 1) which can assist the clinician to check for NaOCl in a delivery device intended for delivering other solutions.

The dental bib sheet, which is available in different colours, shapes and designs, has a protective liquid barrier or plastic side and an absorbent side. When a drop of NaOCl solution is placed on the absorbent side of the sheet, it immediately gets absorbed into the sheet and decolourises the area of contact due to the bleaching effect of NaOCl. Other solutions such as LA, distilled water, saline and EDTA do not decolourise the sheet. This forms the basis for the test (Fig. 1).

This test must be carried out by keeping a dental bib sheet with its plastic side facing down and absorbent side facing up on the worktable or bracket table of a dental chair. When a container and/or a delivery device such as anaesthetic syringe and standard dental syringe, with or without labelling or marking, is readily dispensed with any of these solutions, deposit a drop of the solution onto the sheet just before or after loading it from the container, or before taking the readily dispensed delivery device into the oral cavity. A decolourised surface in the deposited area suggests that the container and/or delivery device is wrongly dispensed with NaOCl instead of the intended solution. Similarly, it helps to identify a NaOCl-containing delivery device which is mistaken with and taken up for use instead of the one with the intended solution. Thus, any accidental injection or extrusion of NaOCl can be averted. This test is simple, safe, chairside, and economical. Its limitation could be that it is useful to identify only NaOCl, but not other solutions which may also have a potential to cause similar mishap.

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Fig. 1 The dental bib sheet test using an assortment of solutions

References

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2. Verma P, Tordik P, Nosrat A. Hazards of improper dispensary: literature review and report of an accidental chloroform injection. *J Endod* 2018; **44**: 1042–1047.

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Scientific research

DORA challenges

Sir, we read with interest a recent letter in the *BDJ* entitled 'Author-level Altmetrics?'[1] For improvement in the evaluation of research and researcher output, we would like to draw readers' attention to the San Francisco Declaration on Research Assessment (DORA) developed in 2012, which challenges the use of journal-based metrics to assess the contribution of a scholar to their field. Owing to the limitations associated with the calculation of Journal Impact Factors, the declaration focuses on evaluating research based on its merit. Significant community support is needed to promote change in the decision-making process in academia