

Report of a Freak Dental Accident

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Abstract

An accident may be described as an unintentional injury. It is often told that an undesirable incident could have been prevented had the circumstances leading up to the accident been recognized, and acted upon. This is derived upon after post-mortem analysis of the events. But a freak accident is an unusual and curious incident that occur under very normal and unexpected circumstances. Many unexpected and undesirable event, especially one resulting in damage to materials or harm to a person occur quite often and is generally considered as inevitable. Such occurrences are witnessed and/or experienced by many and are termed as ‘Freak Accidents’. Such freak medical and dental accidents happen more often than one might suspect. This paper presents one such freak accident happened in a dental school to a dental student.

Keywords:Dental accident, Diamond bur, Operator safety, Inexperience

Introduction

The most common chair side accidents probably happen during restorative and endodontic procedures. Accidents of swallowing or aspiration of restorations such as inlays and crowns or instruments such as burs, root canal reamers and files are reported frequently. Similarly, dental accidents with chemical such as hypochlorite, hydrogen peroxide, superoxol, formocresol, gluteraldehyde and formalin during restorative and endodontic procedures have also occurred and reported. Physical injuries to soft tissue with sharp and blunt instruments and heated instruments have also occurred during restorative procedures and reported. Accidental injection of caustic chemicals during dental procedures have also occurred and presented so that care can be taken by operators in future. In present day, accidents get sensationalised as they appear in news media.

There are a number of documentation of complications during root canal irrigation^[1]. The trivial incidents such as root canal irrigating solution that damage the patients' clothing also are reported though not often^[2]. Even the inadvertent contact of the caustic irrigating solution into the patient's or operator's eyes may not be reported though this could result in irritation, pain, intense burning, erythema and swelling of the eyes^[3]. But inadvertent escape of 5.25% sodium hypochlorite beyond the apical foramen during root canal irrigation and injecting hypochlorite as infiltration or mandibular block anaesthesia have caused serious damage and have been reported^[4]. Similarly, when hydrogen peroxide is used as irrigating solution can cause serious iatrogenic subcutaneous cervico-facial emphysema that may require surgical interventions.^[5]

Chemical burns during bleaching accidents has resulted in painful damage to soft tissue and scarring. Chemical injury with ferric sulphate, silver nitrate and paraformaldehyde during restorative treatment resulting in necrosis of the periodontal tissues have also been reported. Apart from these accidents that can cause serious consequences there are a number of freak accidents that also happen. Some of these happen to the patients, some to the dental auxiliary staff, some to the dentist and some to the dental students. This paper illustrates one freak accident that has occurred to a dental student.

Case Report

The student was working in the pre-clinical phantom head laboratory. Fully geared with head cap, goggles, mask and gloves the student was performing tooth preparation for restoration. Suddenly this freak accident took place. She presented with the head and neck of a broken straight fissure diamond abrasive point (SF 41) embedded in her right-hand middle finger

[Figure 1]. The shank of the bur was still in the handpiece head. [Figure 2]. The student was taken to the surgery department and the embedded piece of the bur was removed and dressing was applied.

Discussion

It is not puzzling to come across injury to operator during performance of treatment procedures. But in the presented case the nature of accident was baffling. The student is right-handed. It has been noticed that some operators in medical and engineering fields use their untrained hand sometimes for convenience. The risk associated with that is not realised until something goes wrong.

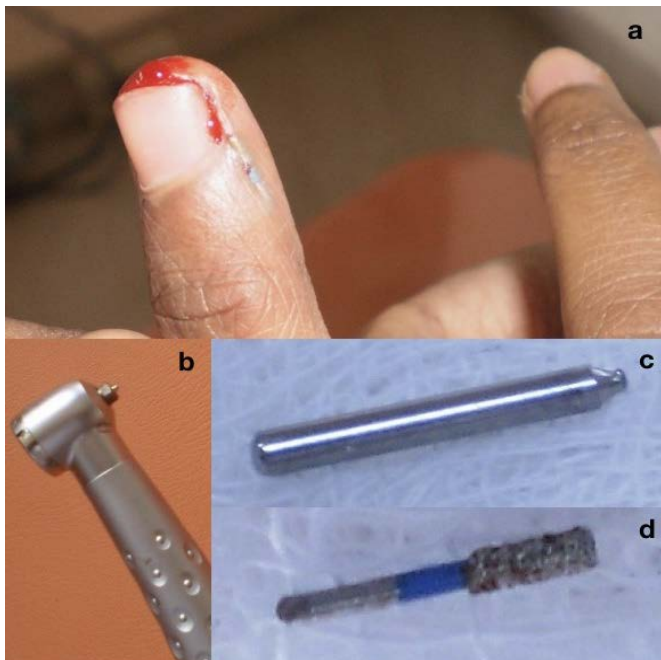
Restorative procedures and endodontics are performed on patients who are usually fully conscious. The risk of movement of the head is high. Closing of the mouth due to fatigue of jaw muscles during operation is immense. Movement of the tongue to the operating site has to be guarded. Further, often the working environment is wet and slippery. All these can contribute to unexpected minor or major injury to the patient. In this case the exercise was in a mannequin. It is assumed that the student has used her left hand for tooth preparation and the right hand to guard. Being untrained in using the left hand in an unfriendly environment this freak accident could have occurred. "To err is human," But deviation from the routine without sufficient practice is dangerous to oneself, others and to the environment.

Conclusion

To follow the dictum "Primum non nocere" ("First, To Do No Harm") one must be properly trained and utmost care taken during rendering of treatment to patients. Reports of such freak accident help one to be disciplined.

Figure 1

- a. Broken bur embedded in student's right-hand middle finger
- b. Shank of the bur retained in the handpiece head
- c. Shank of the bur removed from the handpiece
- d. Bur removed from the student's finger



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