

TIME COURSE OF THE PASSAGE OF AN INGESTED BRASS WIRE SEPARATOR THROUGH THE GASTROINTESTINAL TRACT.

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**ABSTRACT:** Fixed Orthodontic Treatment involves the use of appliances with many metallic components. Some times appliance parts may go missing between appointments instead of and may be noticed during recall appointments. Ingestion of this parts is rare but if it happens it may be life threatening. Herewith a case of ingestion of metallic brass wire ligature and timely intervention is discussed.

**KEYWORDS:** Orthodontic Components, Fixed appliance, Brass wire, Separator, Ingest, Time course

INTRODUCTION

Orthodontic patients or their parents usually report missing appliance parts. Invariably, they are not aware of how the loss has happened and usually don't recall having ingested the offending part. Although very rare, ingestion of a small part could cause serious complications. It is therefore advisable to ensure that the swallowed part is in fact eliminated. The purpose of this case report is to illustrate the path of a brass wire separator which has been radiographically followed in its passage through the GI tract.

Case Report

This is the case report of a patient who had swallowed a brass wire separator being used to correct an ectopically erupting upper first molar.

A 9 year old boy was being treated for ectopic eruption in our clinic by the use of a brass wire separator between tooth numbers 26 and 65. A length of 0.020" brass wire was twisted around the contact between teeth numbers 26 and 65 after anaesthetizing the area with xylocaine. A 4 mm long pigtail was left and was tucked into the embrasure between the teeth. The patient was recalled every 2 weeks for tightening of the brass wire and the excess was cut off each time. The brass wire was tightened twice after the first appointment and the patient was recalled one week after the last tightening

appointment for removal of the wire. During this visit, it was noticed that the separator was missing. Neither the patient nor his parent was aware of this but the patient did recall feeling it with his tongue the previous day. After taking an IOPA to ascertain that the separator was not lost into the interdental area, the patient was sent for PA views of the chest and abdomen. The latter showed the presence of the separator in the left hypochondrial region at the level of L2/L3 (**Fig.1 and Fig. 2**). Since the patient had no symptoms, he was sent home with instructions to eat a lot of fibrous food and to drink a lot of water. A PA view radiograph done 36 hours later showed the separator near the midline at the level of L4/L5, probably in the small bowel intestinal loop (**Fig.3**). A further radiograph done 72 hours after the last one (5 days after the possible ingestion) did not reveal the presence of the separator suggesting that it had passed through uneventfully (**Fig.4**)

Discussion

Orthodontic patients reporting with missing appliance parts is a common enough occurrence. Molar tubes, wires, elastic separators are commonly missing and usually the patient does not recall if the parts have been swallowed. Sometimes, larger fragments such as arch wire sections or molar bands may be missing. Aspiration is a serious occurrence, and since small objects may not cause initial



Fig.1. PA view chest does not show the separator



Fig.2. PA view abdomen showing the separator in the left hypochondrium



Fig.3. PA view abdomen showing the separator near the midline at L4/L5 level



Fig.4. PA view abdomen showing no evidence of separator

symptoms only to cause more serious symptoms such as pneumonia later<sup>1</sup>, it might be advisable to do at least a chest x-ray to rule out this possibility. Ingested appliance parts usually do not cause problems. Even very large objects have been reported to have passed safely through the G.I tract<sup>2, 3</sup>. Chances of developing serious complications such as perforation are extremely rare<sup>4</sup>. Nevertheless, it might be safer to have an abdominal x-ray done to confirm the position of a missing part. This becomes even more important when the part is either large or sharp.

## CONCLUSION

Serial radiographs to ensure safe passage of missing orthodontic appliance parts with sharp ends may be necessary when the patient does not bring the part to the office or does not know what happened to it.

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