Intracanal adhesive treatment

Masaru Igarashi*

Department of Endodontics, School of Life Dentistry at Tokyo, The Nippon Dental University, Tokyo 102-8159, Japan, E-mail: m-igarashi@tky.ndu.ac.jp

Accepted on November 25th, 2020

Short Communication

In restorative dentistry, the improvement of adhesion method using composite resin has been advanced and strength bonding can be expected. As a method of adhering to a split tooth, a method of cutting the fracture surface further and returning the tooth to its original shape with an adhesive material has been reported. As a method of adhering to a split tooth, a method of cutting the fracture surface further and returning the tooth to its original shape with an adhesive material has been reported. In addition, while observing the teeth in the oral cavity with a microscope, a new procedure has also been reported in which the tooth material is cut along the fracture line from the inside of the root canal and removed to the vicinity of the root side of the root to adhere. In that case, since the adhesive material is applied to the healthy dentin surface after cavity preparation, the adhesive effect is increased more than the operation method of flowing the adhesive material into the root canal. However, exudates or bleeding often occur in the root canal from the broken line during the adhesion work performed in the oral cavity, and it is difficult to perform the adhesion operation in a completely dry state. Therefore, in this method, a method of adhering tooth fracture by intentional replantation was selected. Since carried out by hand, it is possible to remove the dentin on the fracture surface to the vicinity of the root surface, so it is possible to increase the adhesion area. Therefore, as the thickness of the adhesive material increases, it can be expected that mechanical tectonic will also be larger than the film-like shape. In addition, because the dry state can be maintained, no exudates are generated in the root canal cavity, so that a reliable bonding operation can be performed.

In the cavity of the fracture surface, there is a large amount of food debris, bacteria, necrotic substances, flame-causing substances such as exudate denatured substances, which removal guarantees healing. Mechanical removal is the most convenient method for debridement and treatment under microscope can increase certainty. Even in this procedure, it was possible to remove the fracture surface from the root canal toward the root surface while observing with the microscope and to cut and remove as much as possible to the vicinity of the cementitious material. Even if all the fragments of dentin are removed to the vicinity of the cementitious material, when they are repositioned, the tooth root appearance is completely intact and only a large cavity is formed in the root canal. If the fragments of fractured tooth cannot be restored to original shape due to complex root fractures or the lack of some pieces, the treatment will be impossible. Furthermore, it is possible to change the fracture tooth to a crack tooth on the root surface. By filling the cavity with the composite resin for the core inside its root canal, it becomes a composite resin tooth having mechanical properties similar to teeth. That is, the ratio of the content of the core resin to the teeth becomes high, and the dentin is reborn as a composite resin tooth having cementum and periodontal ligament. A crack is an event seen in many teeth, and if the patient enforces plaque control it will not cause great damage. Therefore, it was possible to revive the teeth of the remaining life 0 day which became tooth extraction by making perfect squirrel teeth as crack teeth. Although it is possible that pocket formation may remain along the crack, it is thought that the infection control mechanism of the living body can be fully demonstrated by thorough plaque control of the cracked part. Biological healing is expected as the patient's own teeth are replanted. Since the reconstructed tooth has healthy dentin and cementum and periodontal ligament tissue around the core resin,

it can have the same healing process as normal teeth. Moreover, since most of the broken teeth are composite resins, the strength of the teeth increases.

In recent years, tooth reinforcement has been done in fiber posts, but fiber posts cannot be used dental alone as a root canal, it is impossible to cross the root canal. Therefore, a method of reinforcing by inserting a straightening 0.9 mm wire from the root canal opening into the root canal was attempted, but it is easy to bend in accordance with the opening of the root canal of the tooth, and the insertion depth is also a length. It was a reliable method because it can only be adjusted. This method is a revolutionary method applicable also to single root teeth such as tongue fracture of the maxillary bicuspid, mandibular molar and front teeth. Even in this case, since it functions as a bridge abutment for the first molar defect, it can be said that it is a new treatment method in the future. On the other hand, intentional replantation is concerned about external absorption of the anchyloses after surgery, but since the dental practitioner can treat it under the preservative environment and under the protection of the periodontal membrane, there are not many such discomfort prognosis. Also, in implants with artificial materials, percutaneous inflammation after operation is likely to occur due to absent of the periodontal ligament tissue, but defense mechanism works on your teeth.

This method can be said to save the broken tooth in cracked tooth. This method can also be considered to make a resin tooth with a periodontal ligament that makes up many of the resin for the core using patient's own teeth. In future the more replanted cases will research the prognosis and improve the surgical procedure.

Vertical root fractured tooth is able to be survived by using adhesive composite resin in the root canals with application of the intracanal adhesive resin under the intentional replantation.

***Correspondence to:**

Masaru Igarashi,
Department of Endodontics,
School of Life Dentistry at Tokyo,
The Nippon Dental University,
Tokyo 102-8159,
Japan,
E-mail: m-igarashi@tky.ndu.ac.jp