1. Name of the medicinal Product

TOXAVIT

2. Qualitative and quantitative composition

1 g paste contains 460 mg paraformaldehyde, 370 mg lidocaine hydrochloride 1 H2O and 45 mg metacresol (Ph.Eur.)

Full list of excipients, see section 6.1

3. Pharmaceutical form

Dark grey tough dental paste

4. Clinical particulars

4.1 Therapeutic indications

TOXAVIT is used to devitalise dental pulp in particular cases where endodontic surgical measures (e.g. vital extirpation) are not possible. Prior to use, it should be checked whether successful treatment might be able to be achieved using other, aldehyde-free procedures (e.g. anaesthesia or bleeding control).

4.2 Posology and method of administration

In general, 20 - max. 25 mg (pinhead-sized pellet) TOXAVIT, equivalent to 9.2 - max. 11.5 mg paraformaldehyde 7.4 - max. 9.3 mg lidocaine hydrochloride 1 H2O is applied.

After making a wide opening in the roof of the pulp, insert a pinhead-sized pellet (20 - max. 25 mg) of TOXAVIT paste into the tooth using a spatula and carefully spread with a pellet plunger using as little pressure as possible, until the TOXAVIT insert is in direct contact with the pulp. If necessary, the paste can also be inserted into the exposed pulp using a lentulo spiral. Cover the insert with a cotton wool pellet to absorb any eventual pressure from the seal. The seal must also be applied without using any pressure and must be completely leak-proof. Where cavity seals are not leak-proof, and approximal leakage occurs, and where the paste oozes out, papillary burning may lead to extremely severe soft tissue and bone nerosis.

The paste may not remain in place for longer than a maximum of 14 days prior to mortal extirpation; where the pulp shows residual vitality, application of the paste may be repeated after removal of dead pulp tissue. In this case, the paste should also remain in place for no longer than a maximum of 14 days.

4.3 Contraindications

Allergy to formaldehyde, lidocaine, metacresol or eugenol

4.4 Special warnings and precautions for use

Should the use of TOXAVIT cause necrosis of the gum, the periapical tissue or bone, the inlay is to be removed and the patient admitted to hospital. In the event that the paste accidentally comes into contact with the skin or mucous membranes, the affected areas should be rinsed with ample amounts of water. While the paste is in place, the cavity must be sealed tightly at all events. The paste should not remain in place for longer than a maximum of 14 days prior to mortal extirpation. TOXAVIT may not be used in the presence of perforation.

Any contact between the paraformaldehyde-containing TOXAVIT paste and the surrounding soft tissue during insertion into or sealing of the tooth resulting from oozing out of the paste is to be avoided due to its extremely caustic and necrotising effect.

Prior to using the preparation, the patient should be informed about the eventual risks associated with treatment as well as about alternative forms of treatment.

4.5 Interactions with other medicinal products and other forms of interactions

If used as intended, none known

4.6 Fertility, pregnancy and lactation

Because of the anticipated low systemic exposure of paraformaldehyde following topical application of TOXAVIT no effect on the pregnancy or the breastfed newborn/infant of treated women are anticipated. TOXAVIT can be used during pregnancy and lactating with caution. For TOXAVIT there are no studies on exposed pregnant women available. Animal studies do not indicate direct or indirect harmful effects with respect to pregnancy, embryonal/fetal development, parturition or postnatal development (see section 5.3).

4.7 Effects on ability to drive and use machines

No special precautions required.

4.8 Undesirable effects

In the assessment of adverse events following frequencies are used:

- Very common (≥ 1/10)
- Common (≥ 1/100 to < 1/10)
- Uncommon (≥ 1/1000 - <1/100)
- Rare (≥ 1/10000 - <1/1000)
- Very rare (< 1/10000)
- Not known (frequency based on available data cannot be estimated)

Following application to the exposed pulp cavity, more or less severe pulpitis-like complaints occur. These are relieved through the addition of the local anaesthetic lidocaine hydrochloride to the paste. Upon extirpation of the pulp, occasional bleeding occurs at the apical site of detachment despite devitalisation. In the event of insufficient diffusion or inadequate release of formaldehyde, vital tissue fragments can remain in the canal and cause considerable pain.
If formaldehyde extravasates from the apex and reaches the furcation area or side canals or leaking filling edges, inflammation or necrosis of periapical tissue, surrounding bone or the gums may result. When used on milk-teeth, damage to the dental germ of the subsequent adult tooth may occur during the early stages of development (before mineralisation is complete) in extremely rare cases. Systemic effects cannot be ruled out. There are no findings on this method of application and local carcinogenicity. Local and systemic allergic reactions are possible. Patients are asked to inform their dentist, if they notice any side effects, particular such which are not mentioned in this leaflet.

4.9 Overdose and other dosage mistakes
When using TOXAVIT for devitalisation of the dental pulp no cases of overdose were reported.

5. Pharmacological properties
5.1 Pharmacodynamic properties
TOXAVIT paste contains paraformaldehyde. Paraformaldehyde is a formaldehyde polymer with a varying number of monomers. Its depolymerisation to formaldehyde is determined by the environment it is in and the prevailing temperature thereof. Formaldehyde binds to cell proteins and brings about denaturation of proteins and a ceasing of vital cell functions. The onset of this effect is slow. In tissue, vasodilatation and increased capillary filling is first of all observed. Tissue dies as a result of endothelial lesions accompanied by haemorrhaging and oedemas, as well as a loss of nuclear staining and hyaline softening of connective tissue, the development of hyaline and blood cell thrombi and finally total interruption of microcirculation.

The extent of changes depends on the concentration of formaldehyde and the time it is allowed to take effect.

Bacteriostatic or bactericidal effects are achieved in micro-organisms through an appropriate change in protein molecules. There are no definite differences in concentration in respect of an antibacterial and tissue-damaging effect. There are no details pertaining to the rate of depolymerisation and the concentration of formaldehyde in the tooth. It can be concluded that, from the devitalisation of the whole pulp that occurs in most cases, sufficient amounts of formaldehyde are released.

Lidocaine relieves or prevents eventually occurring pulpitis-like pain. Metacresol helps the paste to adhere to pulp protein. The paraformaldehyde in the paste reacts with pulp protein to form a leathery mass, which, on the whole, is easy to extirpate. Eugenol renders the paste soft and suitable for application.

6 Pharmaceutical particulars
6.1 List of excipients
Eugenol, glycerol and carbon fibres

6.2 Incompatibilities
None known

6.3 Shelf life
2 years (unopened, stored at 2 - 8 °C)
TOXAVIT paste is to be used up within 6 months after the first opening.
TOXAVIT should not be used after the expiry date, which is printed on the label and on the package.

6.4 Special precautions for storage
TOXAVIT must always be stored tightly closed in a refrigerator (2 - 8 °C). The container must be closed tightly after each use and placed in a refrigerator.

6.5 Nature and contents of container
Brown glass bottle with 2 g dental paste

6.6 Special precautions for disposal
Medicines should not be disposed of via wastewater or household waste. Ask your pharmacist how to dispose of medicines, if you no longer need it. These measures are helping to protect the environment. Any unused product or waste material should be disposed of in accordance with local requirements.

7. Marketing authorisation holder
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8. Marketing authorisation number
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9. Date of renewal of the authorisation
06.09.2004

10. Date of revision of the text
July 2013

11. Deferred sales
Only for sale in pharmacies ("dental use only")