

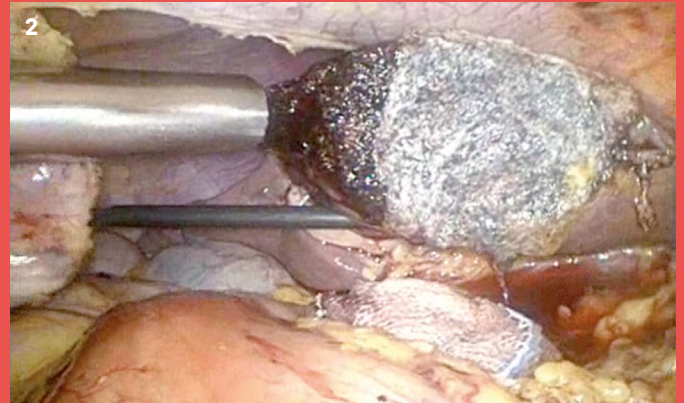
## Case example:

# Haemostasis and sealing of liver resection surfaces in the case of hepatocellular carcinoma

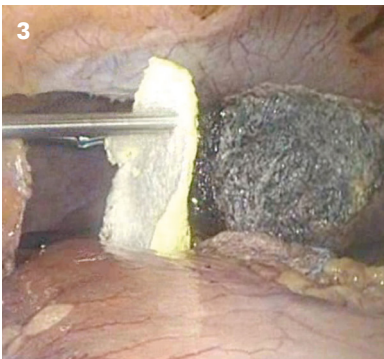
Laparoscopic left lateral sectorectomy of liver segments II and III.



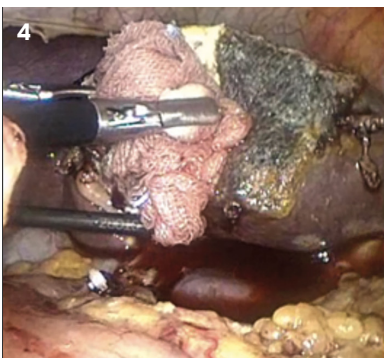
1: View of the tumour.



2: Treatment of the resection surfaces with an initial collagen fleece.



3: Treatment of the resection surfaces with a second collagen fleece.



4: The collagen fleece is pressed on using a moist swab. Sealing of the parenchymal surfaces reduces the risk of secondary bleeding and gallbladder.

### Preliminary remarks:

- Sealing of liver resection surfaces reduces the risk of secondary bleeding and gallbladder leakage and can be useful in the prevention of postoperative complications.

### Patient history:

- 75-year-old female patient with histologically confirmed hepatocellular carcinoma (HCC) of the left liver lobe (25 x 30 mm) (first diagnosed 06/2013). Also multiple hepatic cysts in the liver and kidney area, pituitary microadenoma of consistent size (first diagnosed 2004).
- Status post appendectomy (AE), status post two occurrences of apoplexy (use of Clopidogrel for up to seven days preoperatively), high blood pressure WHO Grade III.

### Surgical procedure:

- Laparoscopic inspection of the abdomen: In the left liver lobe, in segment III, a 3 cm large mass, multiple liver cysts, right kidney shows large cyst, adhesions post AE.
- Inspection of left upper abdomen: Enlarged lymph nodes along the hepatic artery, lymph node sampling along the common hepatic artery, the hepatic artery proper and the hepatoduodenal ligament.
- Laparoscopic left lateral sectorectomy of liver segments II and III and specimen recovery.
- Haemostasis using argon beamer, sealing of resection surfaces using two TachoSil® fleece (4.8 x 4.8 cm).
- Lavage, frozen section analysis, final site control without fluids, insertion of a Robinson type 21 drainage system, postoperative fast track protocol.

## Case example:

## Haemostasis and sealing of liver resection surfaces in the case of hepatocellular carcinoma. Laparoscopic left lateral sectorectomy of liver segments II and III.

### Conclusion:

- Time until haemostasis shortened by approx. 10 minutes.
- Blood reserves and blood substitutes spared.
- Drain removed as early as two days postoperatively.
- Period spent in intensive care: One day instead of the usual three.
- Hospitalisation period reduced from eight to six days.
- Likelihood of postoperative complications reduced.

**Reference:** According to information from Dr. Christoph Prinz, Clinic for General, Visceral and Vascular Surgery, KMG Hospital Güstrow GmbH – Academic Teaching Hospital at University of Rostock

### TachoSil Sealant Matrix (5.5 mg per cm<sup>2</sup> of human fibrinogen, 2.0 IU per cm<sup>2</sup> of human thrombin)

**Statement:** Before prescribing, consult/refer to the full prescribing information.  
**Presentation:** An off-white sealant matrix. The active side of the matrix is coated with fibrinogen and thrombin, is marked by a yellow colour. Supplied, ready to use, in sterile packaging. **Legal Classification:** Restricted prescription only medicine.  
**Indications:** In adults and children from 1 month old, for supportive treatment in surgery for improvement of haemostasis, to promote tissue sealing, and for suture support in vascular surgery where standard techniques are insufficient; also, in adults for supportive sealing of the dura mater to prevent postoperative cerebrospinal leakage following neurosurgical procedures. **Dosage & Administration:** For epilesional use only. Use is restricted to experienced surgeons. The quantity to be applied is governed by the size of wound area, and the underlying clinical need for the patient. In clinical studies, the individual dosages have typically ranged from 1-3 units (9.5 cm x 4.8 cm); application of up to 10 units has been reported. For smaller wounds, the smaller size matrices (4.8 cm x 4.8 cm or 3.0 cm x 2.5 cm) or the pre-rolled matrix (based on a matrix of 4.8 cm x 4.8 cm) is recommended. TachoSil should be used under sterile conditions and immediately after opening the inner sterile cover. Prior to application, the wound area should be cleansed, e.g. from blood, disinfectants and other fluids. For Flat TachoSil, the sterile package should be pre-moistened in saline solution and applied immediately. The yellow, active side of the matrix is applied to the bleeding/leaking surface and held against it with a gentle pressure for 3-5 minutes. For pre-rolled TachoSil, after removing from the sterile package, it should be applied immediately through the trocar without pre-moistening. The yellow, active side of the matrix is applied to the bleeding/leaking surface using e.g., a pair of cleansed forceps and held against it with a moist pad under gentle pressure for 3-5 minutes. Pressure is applied with moistened gloves or a moist pad. Avoid TachoSil sticking to surgical instruments, gloves or adjacent tissues covered with blood by cleansing them before application. After pressing TachoSil to the wound, the glove or the pad must be removed carefully. To avoid TachoSil from being pulled loose it may be held in place at one end, e.g. with a pair of forceps. In the case of stronger bleeding, it may be applied without pre-moistening, while also pressing gently to the wound for 3-5 minutes. The active side of TachoSil should be applied so that it extends 1-2 cm beyond the margins of the wound. If more than one matrix is used, they should overlap. TachoSil can be cut to the correct size and shaped if too large. In neurosurgery, TachoSil should be applied on top of the primary dura closure. **Contraindications:** Intravascular use; hypersensitivity to the active substances or to any of the excipients.  
**Warnings & Precautions:** No specific data available on the use of this product in gastrointestinal anastomoses surgery. Life threatening thromboembolic complications may occur if the preparation is applied intravascularly. Allergic type hypersensitivity reactions are possible, as with any protein product. If hypersensitivity reactions occur, the administration must be discontinued immediately. To prevent the development of tissue adhesions at undesired sites, ensure tissue areas outside the desired application area are adequately cleansed before administration. In the case

of shock, the current medical standards for shock treatment should be followed. Standard measures to prevent infections resulting from the use of medicinal products prepared from human blood or plasma include selection of donors, screening of individual donations and plasma pools for specific markers of infection and the inclusion of effective manufacturing steps for the inactivation/removal of viruses. Measures taken are considered effective for enveloped viruses such as HIV, HBV and HCV and for the non-enveloped virus HAV. Measures may be of limited value against non-enveloped viruses such as parvovirus B19. Parvovirus B19 infection may be serious for pregnant women (foetal infection) and for individuals with immunodeficiency or increased erythropoiesis (e.g., haemolytic anaemia). It is recommended to record the name and the batch number of the product administered to the patient. Some cases of product non-adhesion issues have been reported in the form of lack of product adhesion / lack of efficacy. Correct product handling and application is required. **Interactions:** No interaction studies have been performed. Similar to comparable products or thrombin solutions, the sealant may be denatured after exposure to solutions containing alcohol, iodine, or heavy metals. Such substances should be removed to the greatest possible extent before applying the sealant. **Fertility, Pregnancy & Lactation:** Safety for use in human pregnancy or breastfeeding has not been established in the clinical studies. Only administer to pregnant and breastfeeding women if clearly needed. **Effects on Ability to Drive and Use Machines:** Not relevant. **Undesirable Effects:** Hypersensitivity or allergic reactions (in isolated cases these reactions may progress to severe anaphylaxis; some cases of product residue causing granuloma), thromboembolic complications may occur if used intravascularly, and adhesions and intestinal obstruction when used in abdominal surgery. Refer to the SmPC for details on full side effect profile and interactions. **Overdose information:** No case of overdose has been reported. **Interactions with Other Medicinal Products:** No interaction studies have been performed. Similar to comparable products or thrombin solutions, the sealant may be denatured after exposure to solutions containing alcohol, iodine or heavy metals (e.g., antiseptic solutions). Such substances should be removed to the greatest possible extent before applying the sealant. **Use in Special Populations:** Limited data are available to support efficacy and safety of TachoSil in the paediatric population. In clinical studies, a total of 36 paediatric patients aged 0-13 years were treated with TachoSil in hepatic surgery. **Pack Sizes:** Package with 1 matrix of 9.5 cm x 4.8 cm, Package with 2 matrices of 4.8 cm x 4.8 cm, Package with 1 matrix of 3.0 cm x 2.5 cm, Package with 5 matrices of 3.0 cm x 2.5 cm, Package with 1 pre-rolled matrix of 4.8 cm x 4.8 cm. Not all pack sizes may be marketed.

**Marketing Authorisation Holder:** Corza Medical GmbH, Speditionstraße 21, 40221 Düsseldorf, Germany  
The full SmPC can be obtained from Corza Medical GmbH.  
**Marketing Authorisation Numbers:** EU/1/04/277/001-005

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