

**WESTFÄLISCHE WILHELMS-UNIVERSITÄT MÜNSTER**  
**Klinik und Poliklinik für Kinder- und Neugeborenenchirurgie**  
Direktor: Univ.-Prof. Dr. med. G. H. Willital

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Universität Münster - Klinik und Poliklinik für Kinder- und Neugeborenenchirurgie  
Albert-Schweltzer-Straße 33 - D-4400 Münster

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**D-4400 Münster**  
**Albert-Schweltzer-Straße 33**  
Telefon-Vermittlung (0251) 63-1  
Telefax (0251) 63-69 80  
Telex 882 529 unims d  
Telefon-Durchwahl (0251) 63-7880  
Zeichen **Dr. Ma/Ku**

Infrared Coagulation

Indication and technique concerning the haemostasis by diffuse haemorrhages of the liver and spleen.

Preliminary report:

Exact and permanent haemostasis is a presupposition concerning Op. procedures of the liver or spleen. In pediatric surgery the low blood volume of the young child leads the surgeons to use techniques in which a exact and also prompt haemostasis can be achieved.

Nd-YAG Laser techniques and infrared coagulation has been used in the pediatric Surgical department of the University Münster for the haemostasis with excellent results.

Material and Methods

Since 1984 we use, in our department, the infrared coagulation and the Nd-YAG laser for the haemostasis especially after liver resection or after trauma. During this period 8 children with a major abdominal mass, 9 children with a liver biopsy and 5 children with a liver trauma have been operated on.

Concerning the children with a abdominal mass there were 3 cases of a Neuroblastoma and 2 cases of a Wilms Tumor in which the tumor is growing into the right liver segment and further 3 cases of a primary liver tumor.

After tumor resection using laser techniques a area of diffuse bleeding with a surface of 3 x 5 - 5 x 8 cm has been left. Permanent and prompt haemostasis could be achieved by using infrared coagulation (Sonde LC 250.02). The drainage pass. The first 24 - 48 hours after the operation a bloody fluid with a volume of 20 to 110 ml. There were no reoperations in these group.

In 9 cases a normal liver biopsie has been performed to confirm the diagnosis by a diffuse liver disease. The resection area of ca. 2 cm<sup>2</sup> has been coagulated with a coagulation tube LC 250.071. A suture is then applicated. There were no bleeding postoperative.

In 5 cases, a abdominal trauma has the reason for a laparotomie. Serosa defects of the liver, spleen or retroperitoneum with diffuse bleeding has been effective corrected. In cases of extended ruptures the devascularised tissue has been resected and the resections area has been sealed by using infrared coagulation.

Conclusions:

By using infrared coagulation a exact, permanent and prompt haemostasis can be achieved. At the same time the application form is simple and the using costs are low.