NEW YORK SOCIETY FOR GASTROENTEROLOGY & ENDOSCOPY
48th Annual
NEW YORK COURSE
December 12-13, 2024 • New York, NY

Peter Steven's Lecture 2024: My Journey In Interventional Endoscopy

Juergen Hochberger, M.D. PhD
Chairman Dept of Gastroenterology
Vivantes-Klinikum im Friedrichshain
Berlin, Germany

Peter D. Stevens (1962-2011)

NYSGE

48th Annual
New York Course

Conflict of Interest

- **No direct COI**

Research support

- **Fujifilm, Düsseldorf, Germany**
- **Ovesco, Tübingen, Germany**
- **Falk Foundation, Freiburg, Germany**
- **Erbe, Tübingen, Germany**
- **Steris, Cologne, Germany**

Greetings from Berlin, Germany

Vivantes Klinikum - BERLIN Friedrichshain

In the heart of Berlin!

Lucky to study in Erlangen - Cradle of Endoscopy in Europe since the 1970ies

Dtsch. med. Wschr. 99 (1974), 496-497

Endoskopische Sphinkterotomie der Papilla Vateri und Steinextraktion aus dem Ductus choledochus

M. Classen und L. Demling

Medizinische Klinik und Poliklinik der Universität Erlangen (Direktor: Prof. Dr. L. Demling)

Der endoskopische Zugang zur Papilla Vateri wurde für eine elektrische Sphinkterotomie bei einem 70jährigen Patienten genutzt. In einem zweiten Arbeitsgang gelang die Extraktion eines Solitärsteins aus dem Ductus choledochus mit einem Dormia-Korb, ebenfalls auf endoskopischem Wege. Erfolgreiche Tierversuche und erste klinische Erfahrungen lassen die Möglichkeit zu kleineren Eingriffen an Papille und Gallengang mit endoskopischen Mitteln erkennen.

Ziel der therapeutischen Endoskopie ist die Verringerung von Größe und Risiko eines chirurgischen Eingriffs. Über die erste erfolgreiche Papillotomie sowie die endoskopische Therapie eines Choledochussteins ohne Laparotomie haben wir kürzlich berichtet (2, 3). Eine Reihe von Tierversuchen zum gleichen Thema ist abgeschlossen (5). Bei sechs Patienten unserer Klinik haben wir endoskopische Eingriffe zur Beseitigung einer Papillenstenose und (oder) Choledocholithiasis unternommen.

Im folgenden berichten wir über eine Elektropapillotomie mit erfolgreicher Steinextraktion aus dem Gallengang.

Endoscopic sphincterotomy of the papilla of Vater and extraction of stones from the choledochal duct

Endoscopic sphincterotomy of the papilla of Vater by high-frequency diathermy is described in a 70-year-old patient. In a second endoscopic session a solitary stone was removed from the choledochal duct with a Dormia basket. Successful animal experiments and these first clinical results point to the possibility of minor procedures being performed on the papilla and the biliary tract via an endoscope.

- 1st endoscopic sphincterotomy in 1973

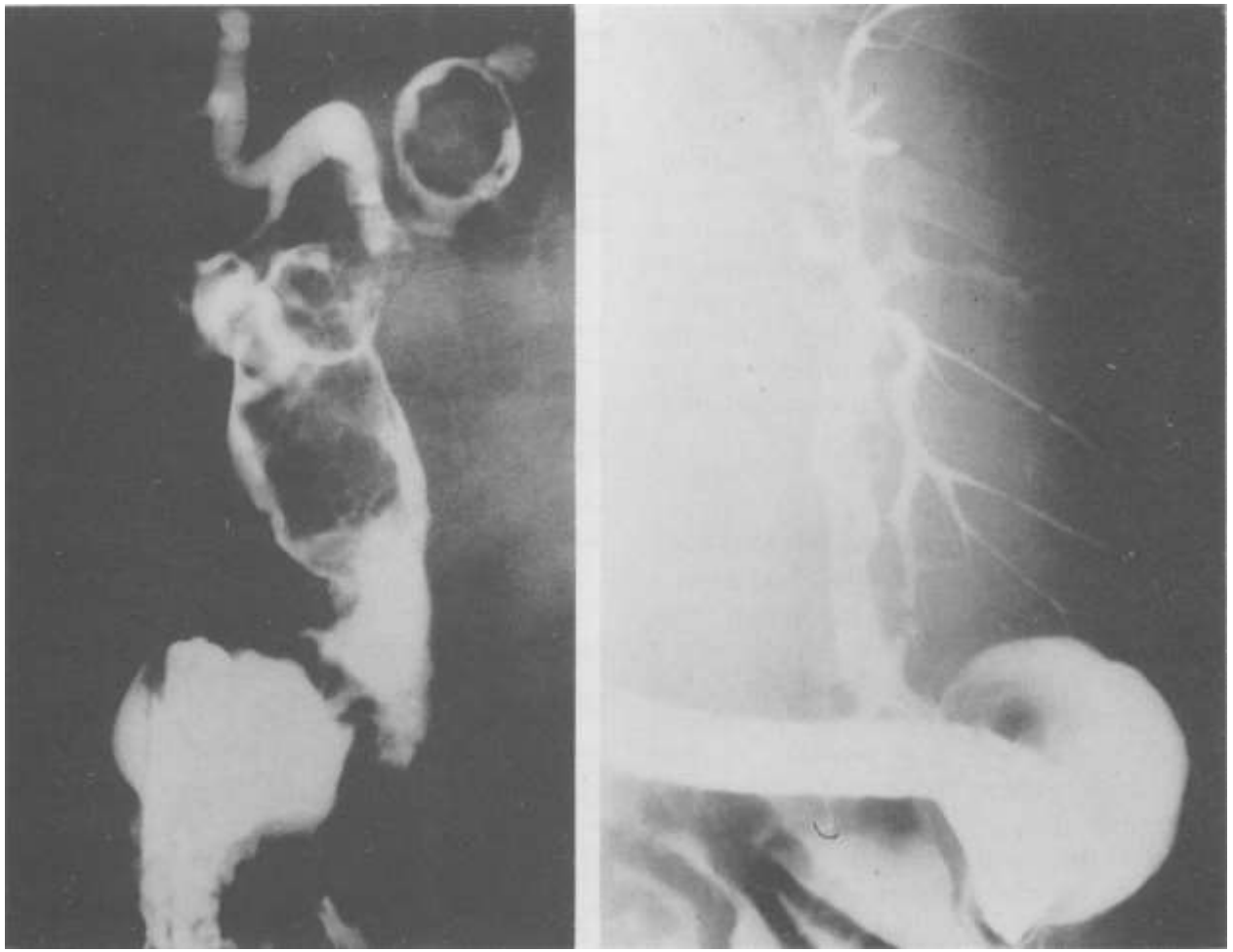
Classen M, Demling L. Endoskopische Sphinkterotomie der Papilla Vateri. Deutsch. Med. Wschr.. (99) 1974: 496-7

Laser - the magic word in medicine at the time - laserlithotripsy of CBD stones

- Induction of shock waves by laser-induced opto-mech. breakdown
- Pulsed Nd:YAG
- Rh-6G lasers

Ell C, Hochberger J, .. Demling L. Laser lithotripsy of gallstones laser - in vitro .. . Endoscopy 1986 (18): 92-4

First successful endoscopic retrograde laser lithotripsy of gallstones in man - 1986



- ..
  - **Induction of shock waves by laser-induced opto-mech. breakdown**
  - **Pulsed Nd:YAG**
  - **Rh-6G lasers**

Ell C, Hochberger J, … L. Demling. Dtsch Med Wochenschr 1986 (111): 1217
Lux G, Ell C, Hochberger J … L. Demling. Endoscopy. 1986 (18):144-5

rectrograde way through the endoscope. Very hard stones or concrements impacted in the coledochus, however, cannot be removed by this method and require surgery.

Address for correspondence: Priv Doz Dr med Christian Ell, Medizinische Universitätsklinik, Krankenhausstraße 12, D-8520 Erlangen, Federal Republic of Germany.

Received for publication 3 December 1987.

and follow up examinations.[7] Laser lithotrip stones in the common bile duct is a new m which can be done with the endoscope, retrog without anaesthesia, by means of ordinary scopic equipment.

This study is an account of the preliminary e ence gained in a total of nine patients treated b method.

Table *Clinical characteristics, techniques and results in nine laser treated patients with large common bile duct stones*

Patients	Sex	Age	Concomitant disease	Stones (n)	Max diameter (cm)	Technique	Results	Comment

Laser lithotripsy of difficult bile duct stones: results in 60 patients using a rhodamine 6G dye laser with optical stone tissue detection system

J Hochberger, J Bayer, A May, S Mühldorfer, J Maiss, E G Hahn, C Ell

Ell C, Lux G, Hochberger J, .. L. Demling. Gut 1988 (29): 746-51
Hochberger J, .. Hahn EG, Ell C. et al. Gut 1998 (43): 823-9

2014 ASGE VIDEO FORUM

First Successful Three-Dimensional Endoscopic Retrograde Cholangio-Pancreaticography (ERCP) with Computed Tomography (CT-) and Magnetic Resonance (MR-) Image-Fusion

NYSGE
48th Annual
New York Course

EASIE Model - First modified surgical simulator JH + Martin Neumann 1997

EASIE - Erlangen Active Simulator for Interventional Endoscopy with Juergen Maiss and Kai Matthes 1999

- For the first time life-like simulation of spurting bleedings
- Fellows improved their skills significantly in comparison to clinical training alone

Randomized, Prospective Comparison of Compact-EASIE Simulator Hemostasis Training with Standard Endoscopy Education

Juergen Hochberger, University of Erlangen, Germany

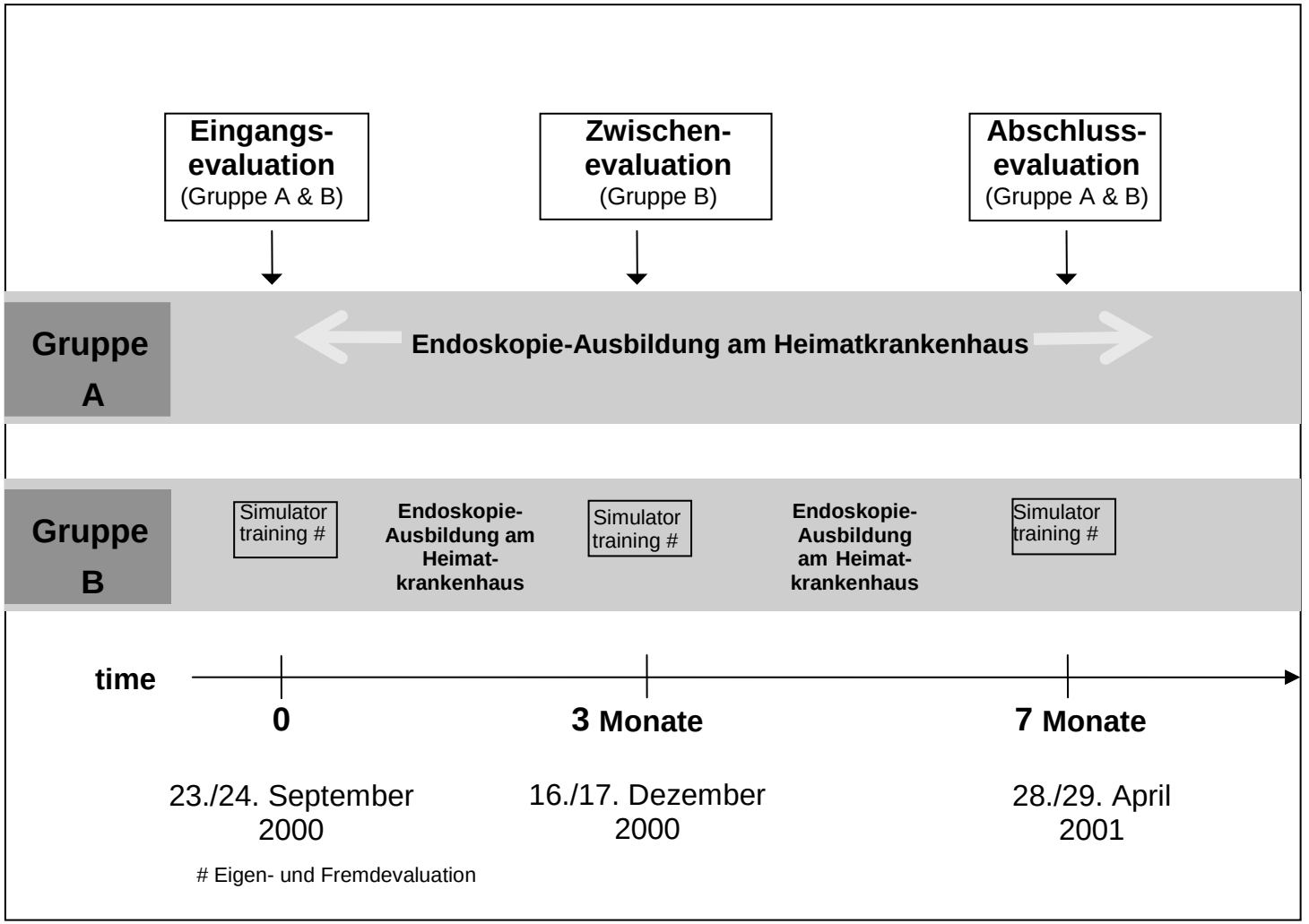
Jonathan Cohen, NYU School of Medicine,
New York, NY

Kai Matthes, Juergen Maiss, Corinna Koebnick,

Eckhart Georg Hahn, University of Erlangen, Germany

New York Society for Gastrointestinal Endoscopy (NYSGE) Stu
Group

Intensive Trinaing on the EASIE simulator versus standard clinical training during a 7-month study period (7 NYC Hospitals 32 part.)



NYSGE
48th Annual New York Course

Evaluation of clinical hemostasis cases during 7-month study period (7 NYC Hospitals 32 part.)

	Group A Clinical Training*	Group B EASIE Training*	P
Intervention of proctor	34% (14-84)	33% (9-52)	0.710
Hemostasis time	17.9 (10.4-34.3)	18.0 (12.8-26.6)	1.000
Successful hemostasis	87% (75-91)	100% (92-100)	0.034
Complication rate	11% (2-25)	0% (0-4)	0.106

Median (IQR)

EASIE Training Project New York

Hochberger J, Cohen J, Matthes K, Maiss J, Hahn E.G. and the NY Society for GI Endoscopy Study Group
September 2000 to Mai 2001

- Fellows improved their skills significantly in comparison to clinical training alone
- Systematic training is needed (Christopher Gostout, ASGE speaking for future ITT)

NYSGE
48th Annual New York Course

Many thanks to

Kai Matthes, Juergen Maiss, Werner Rohmer University of Erlangen, Germany

NYSGE Study Group

Cerulli, M	Brooklyn Hospital,
Cohen, J	NYU School of Medicine
Cohen, S	Beth Israel Hospital
Diehl D	NYU School of Medicine
Gerdes, H	Memorial Sloan Kettering
Greenwald, D	Montefiore Hospital
Jaffe, D	Mount Sinai Hospital
Kasmin, F	Beth Israel Hospital
Scherl, E	Mount Sinai Hospital
Stevens, P	Columbia University
Villanueva, G	NYU School of Medicine

Funding and support:

Boston Scientific Corp., Olympus, Corp., Pentax Corp.

New York Society for Gastrointestinal Endoscopy

EASIE is the new standard in hemostasis training of fellows?!

EDITORIAL

Transgastric surgery in the abdomen: the dawn of a new era?

To launch new developments means to break down borders and to disobey rules in an intelligent fashion. Going beyond the ''natural'' margins among medical disciplines may enrich all sides and may lead to new views of classical indications and therapeutic strategies. In their current papers on endoscopic gastrojejunostomy, Kantsevoy, Kalloo, and coworkers of the Apollo Group show, for the first time, more details of their work going beyond the gastric wall and working with an perorally introduced flexible endoscope via a sterile overtube in the abdominal cavity.[1,2]

In an animal study, with survival over 2 weeks, the investigators demonstrated that a patent gastroenteric anastomosis could be created by actively perforating the anterior stomach wall toward the larger curvature with

Interdisciplinary borders seem to be falling.[9] However, it is not new that gastroenterologists go beyond their natural boundaries, the gastric wall or the small intestine, because these organs are relatively sterile.

EUS-controlled transgastric drainage of symptomatic pancreatic pseudocysts or abscesses is a standard procedure today and has replaced surgery for most of the cases in major endoscopic centers.[10-12] Seifert went a step ahead and not only perforated the gastric wall with a needle-knife but entered the retroperitoneum with a gastroscope after enlarging the incision and then actively debrided infected pancreatic necroses with a Dormia basket.[13] In one of

- **NOTES**
- **Dead end but promotor for widespread ESD**
- **Tunneling Techniques**
- **Third space endoscopy**

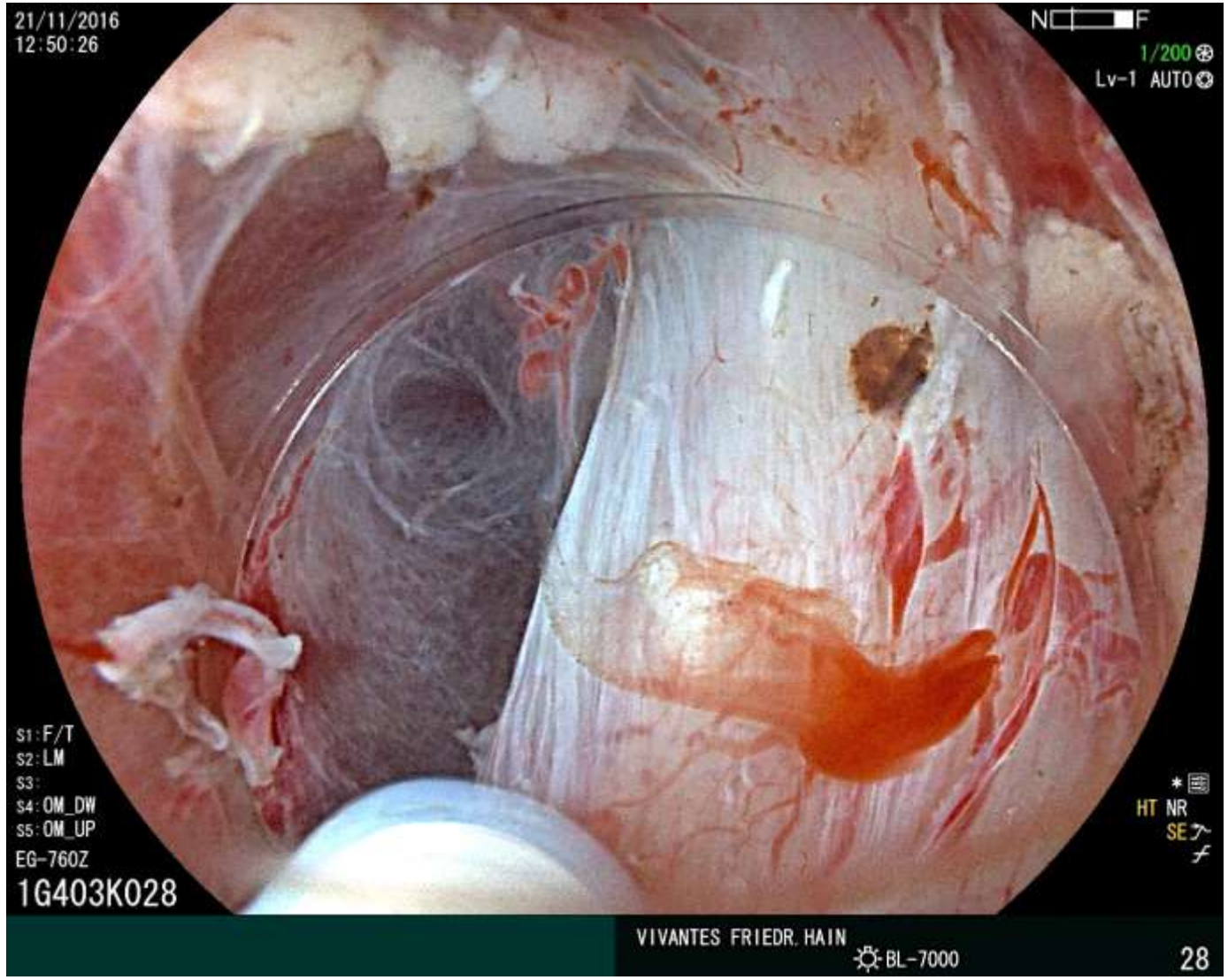
Hochberger J, Lamade W. GIE 2005 (62): 293-6

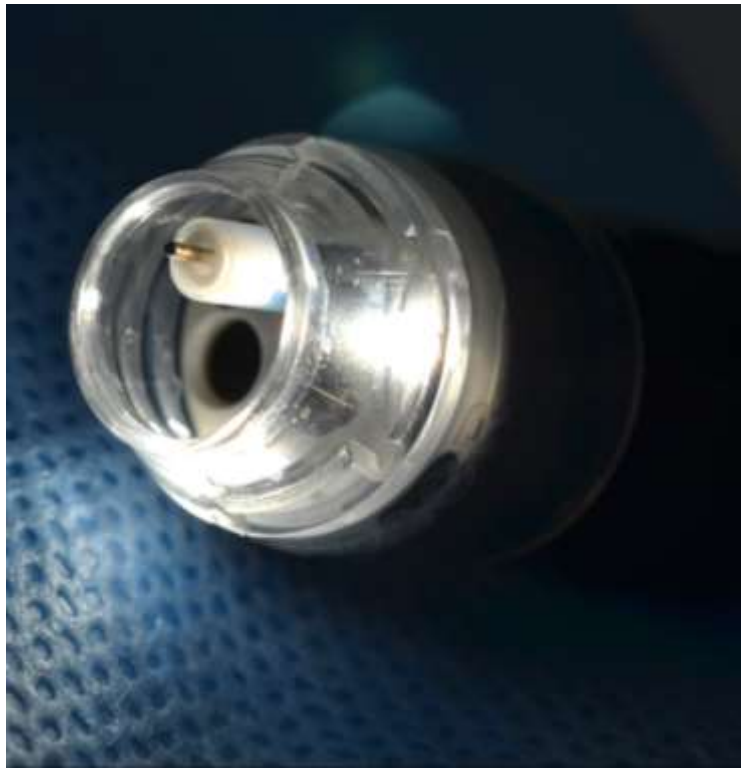
Third Space Endoscopy – NOTES - tv Nephrectomie 2009

- NOTES
- Dead end but promotor for widespread ESD
- Tunneling Techniques
- Third space endoscopy

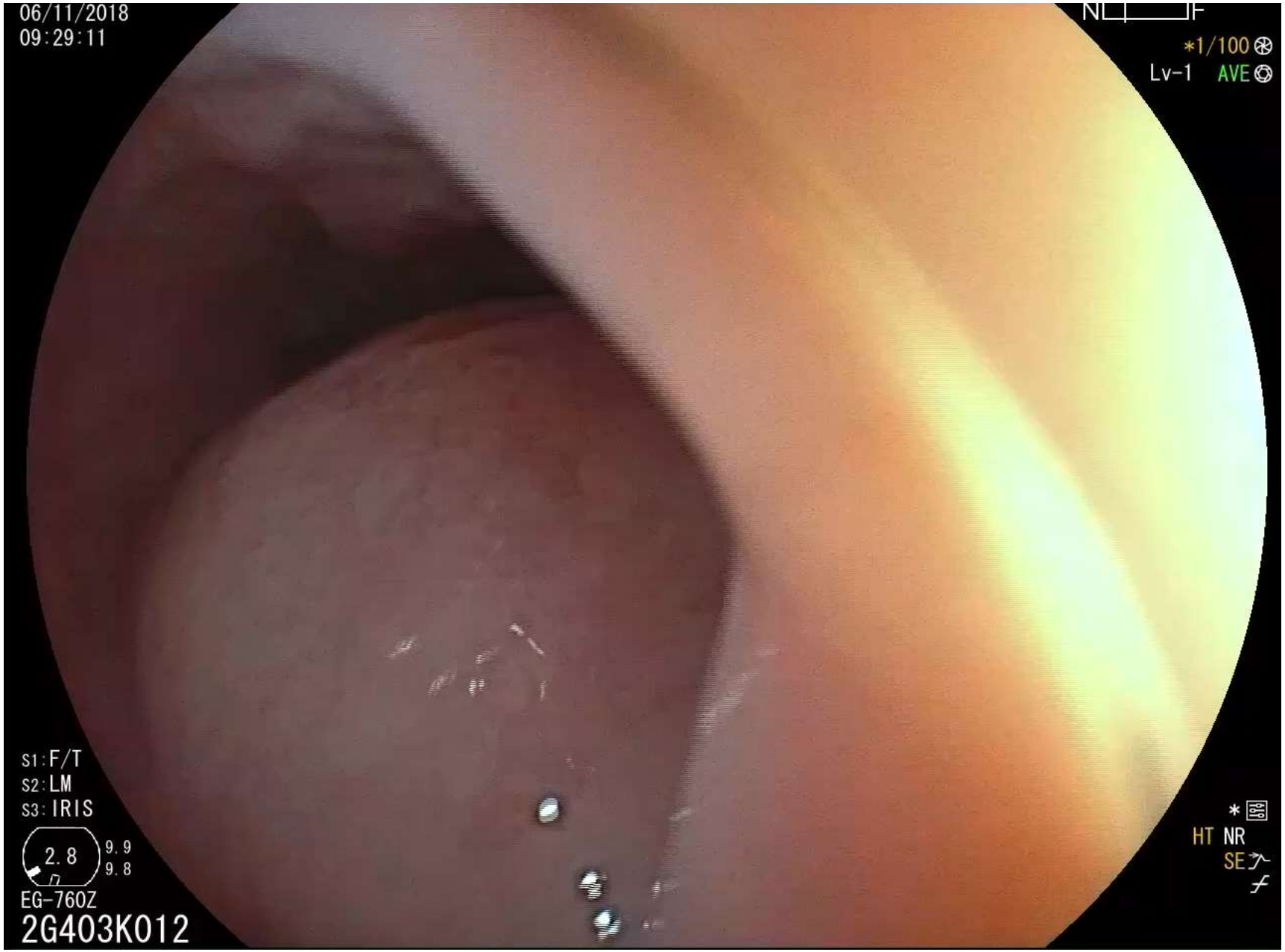
Hochberger J, 03-2009

Complex resection techniques





Leiomyoma in the aortic arch – Submucosal double tunnel technique – DDW 2023



Hochberger J. 2023

NYSGE
48th Annual New York Course

ESD Esophagus – Extensive papillomatosis with HGIEN & pseudodiverticulosis

NYSGE
48th Annual
New York Course

GASTROENTEROLOGY

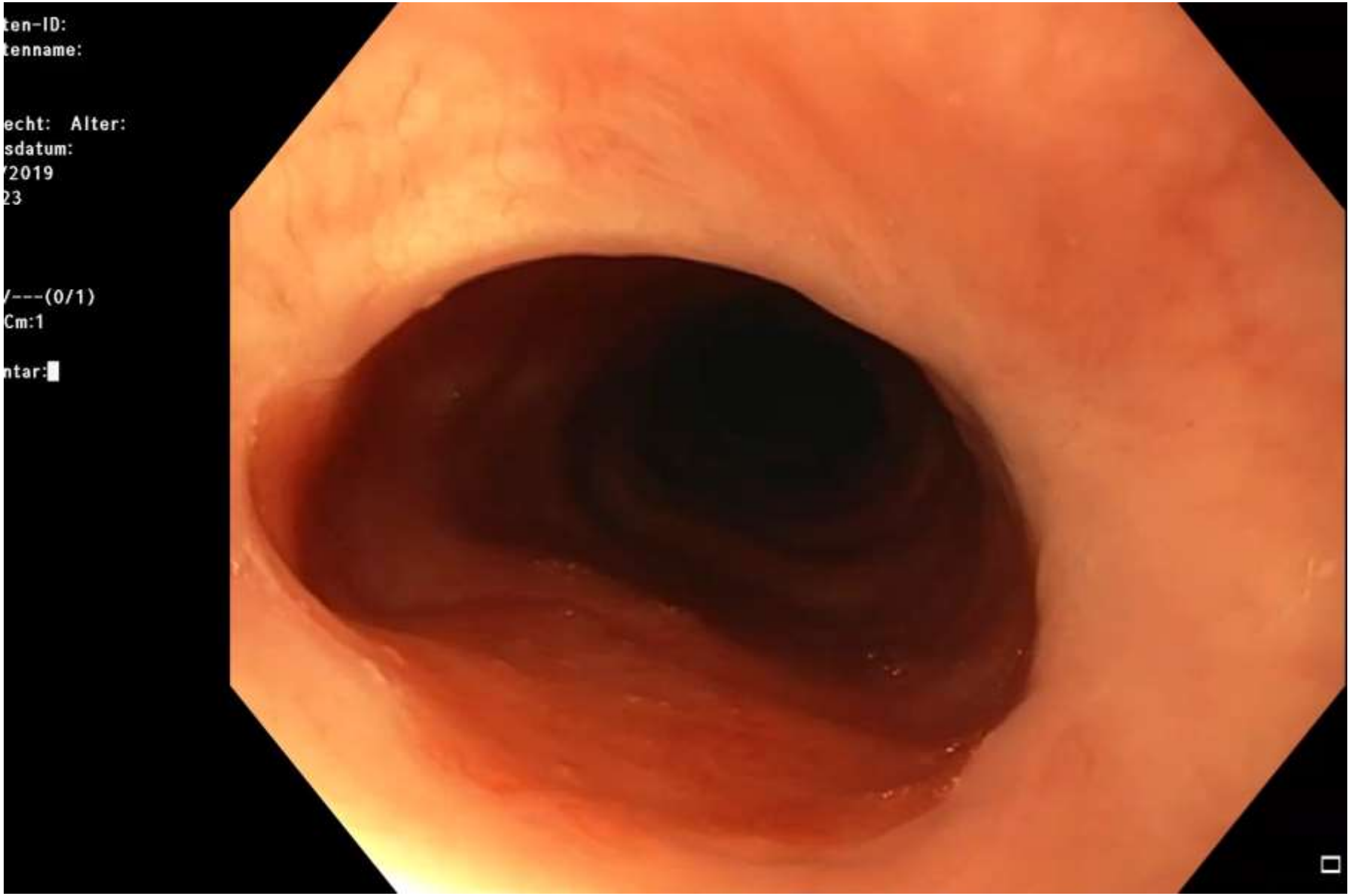
Gastroenterology 2014;146:906-9

Transplantation of Mucosa From Stomach to Esophagus to Prevent Stricture After Circumferential Endoscopic Submucosal Dissection of Early Squamous Cell

Juergen Hochberger,[1,2] Peter Koehler,[3] Edris Wedi,[1,2] Sylvia Gluer,[4] Richard I. Rothstein,[5] Heiner Niemann,[3] Andres Hilfiker,[6] Susana Gonzalez,[7] and Elena Kruse[2]

[1]Strasbourg University Hopitals-Nouvel Hôpital Civil and IHU, Strasbourg, France; [2]Department of Medicine III - Gastroenterology, St. Bernward-Hospital, Hildesheim, Germany; [3]Friedrich Loeffler Federal Research Institute of Farm Animal Genetics (FLI) Mariensee, Germany; [4]Department of Pediatric Surgery, St. Bernward-Hospital, Hildesheim, Germany; [5]Darmouth Medical College, Hanover, New Hampshire; [6]Rebirth DFG-Cluster of Excellence, Leibnitz Research Laboratories for Biotechnology and Artificial Organs, Hannover Medical School, Hannover, Germany; and [7]Division of Gastroenterology, Mount Sinai School of Medicine, New York, New York

8 years after gastric mucosal transplantation 2011/19



NYSGE
48th Annual
New York Course

A plea for organ-preserving resection

EDITORIAL

A plea for quality management and organ-preserving endoscopic resection

Over the past decade, endoscopic resection techniques have been developed and refined and have found their way into daily clinical routine. These include widespread EMR, endoscopic submucosal dissection (ESD), and recently full-thickness resection. These techniques are used in particular for rectal polyps, which are easily accessible and for which the risk of adverse events from endoscopic removal is low compared with widespread polyp resections in the colon. A study of EMR for laterally spreading colorectal polyps by Moss et al[1] showed a recurrence rate of 16% after 4 months and a rate of 4% after 16 months. Most cases could be successfully managed endoscopically.

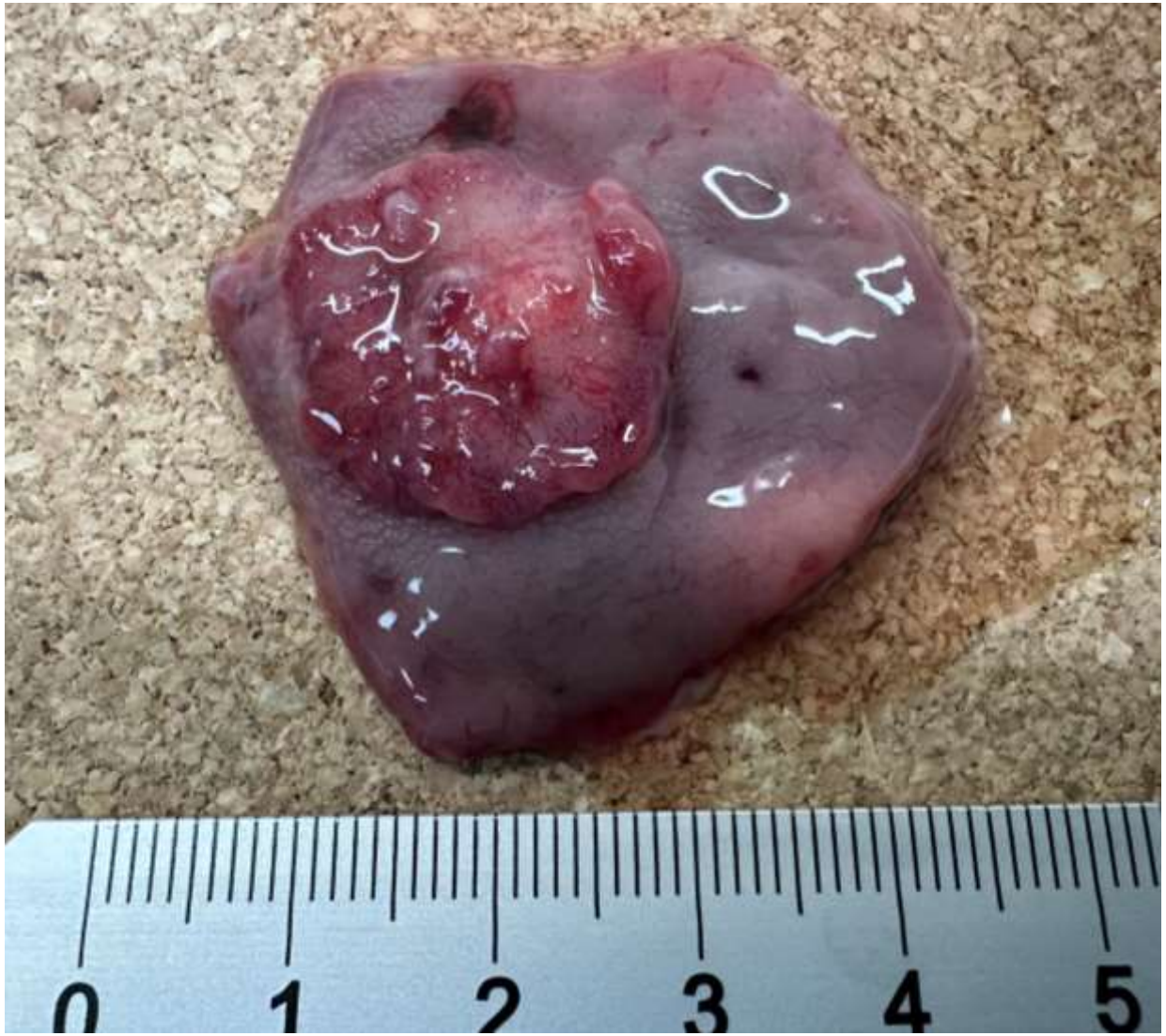
Peery et al[8] from the University of North Carolina recently published in this journal an article focusing on the morbidity and mortality after surgery for nonmalignant colorectal polyps. They analyzed data collected prospectively as part of the National Surgical Quality Improvement Program from 2011 through 2014 and included 12,732 patients who underwent elective surgery for nonmalignant colorectal polyps. The 30-day mortality was 0.7%, and the risk of a major postoperative adverse event was 14%. Within 30 days of resection, 7.8% of patients were readmitted and 3.6% of patients had a

Hochberger J, Meves V. GIE 2018 (82): 571-2

Juergen Hochberger
Pete Stevens Lecture 2024

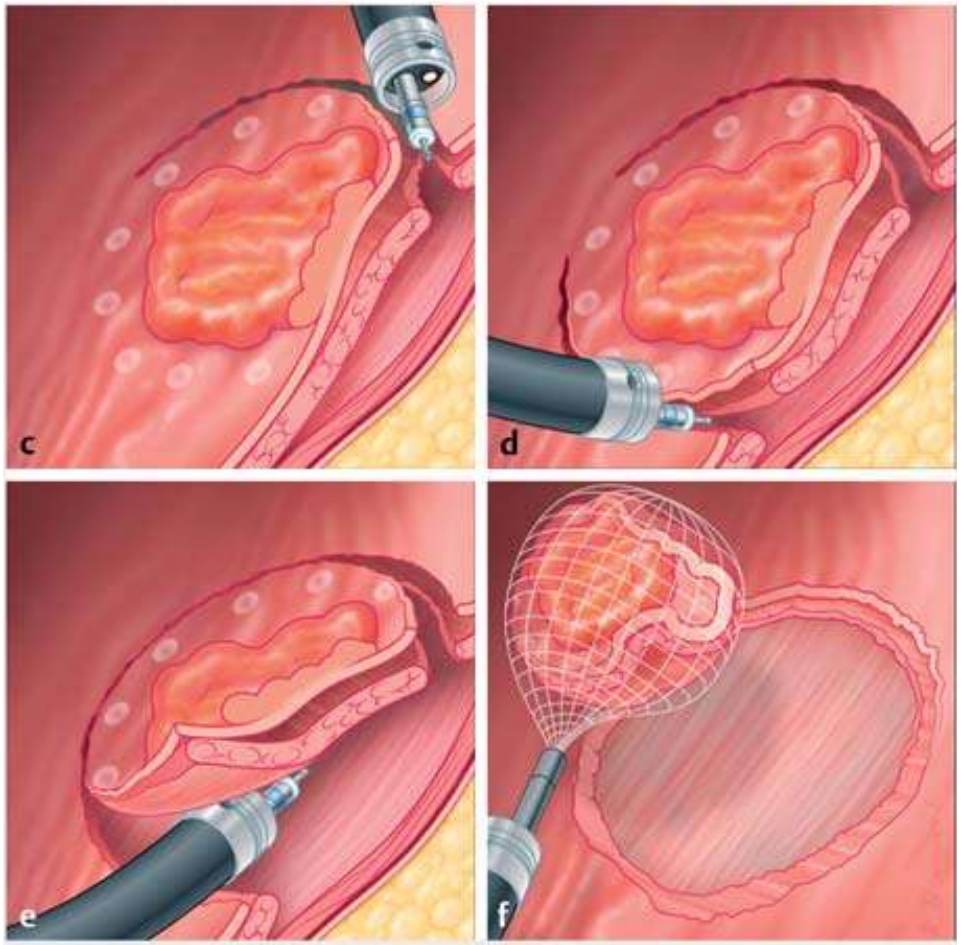
NYSGE
48th Annual
New York Course

Endoscopic Intermuscular Dissection (EID)



Inner muscular layer at the base of the specimen

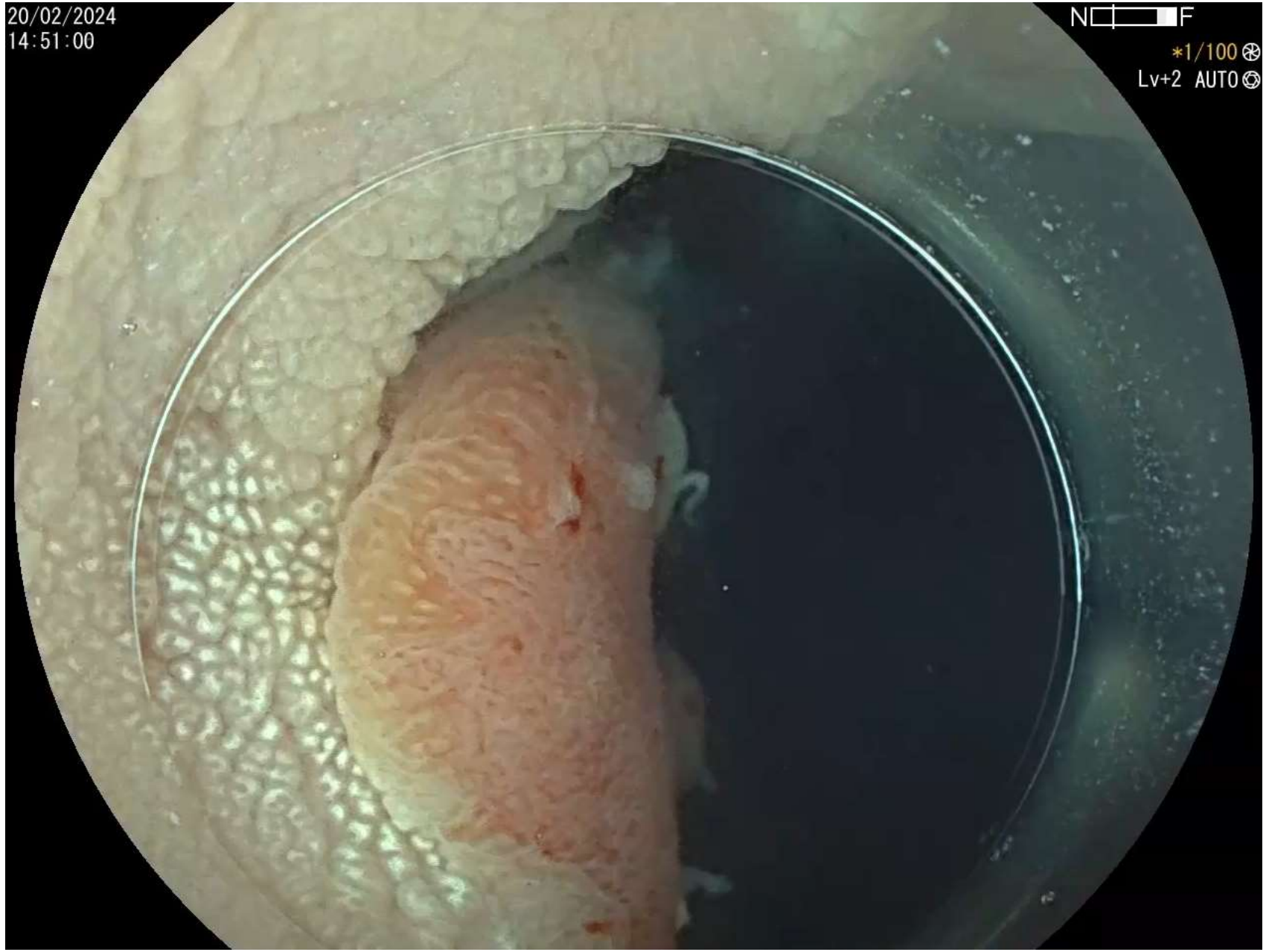
Endoscopic Intermuscular Dissection (EID)



- => T1 cancers or suspicious lesions with HGIEN in the distal rectum
- Dissection between circular and longitudinal muscle layer in the rectum
- Entire submucosa for histo-pathologic analysis
- Avoiding a basal R1 situation

Moons LMG et al. Endoscopic intermuscular dissection for deep submucosal invasive cancer in the rectum: a new endoscopic approach. Endoscopy 2022 (54): 993-8

Endoscopic Intermuscular Dissection (EID)



- T1 cancers or suspicious lesions with HGIEN in the distal rectum
- Dissection between circular and longitudinal muscle layer in the rectum
- Entire submucosa for histo-pathologic analysis
- Avoiding a basal R1 situation

NYSGE
48th Annual New York Course

Endoscopic Intermuscular Dissection (EID)

pT1b G2, L0, V0, Bd1 R0. Sm Infiltration 2000 µm as single risk factor for LN metastases (2.3%)

Organ-preserving resection - Professional mangement

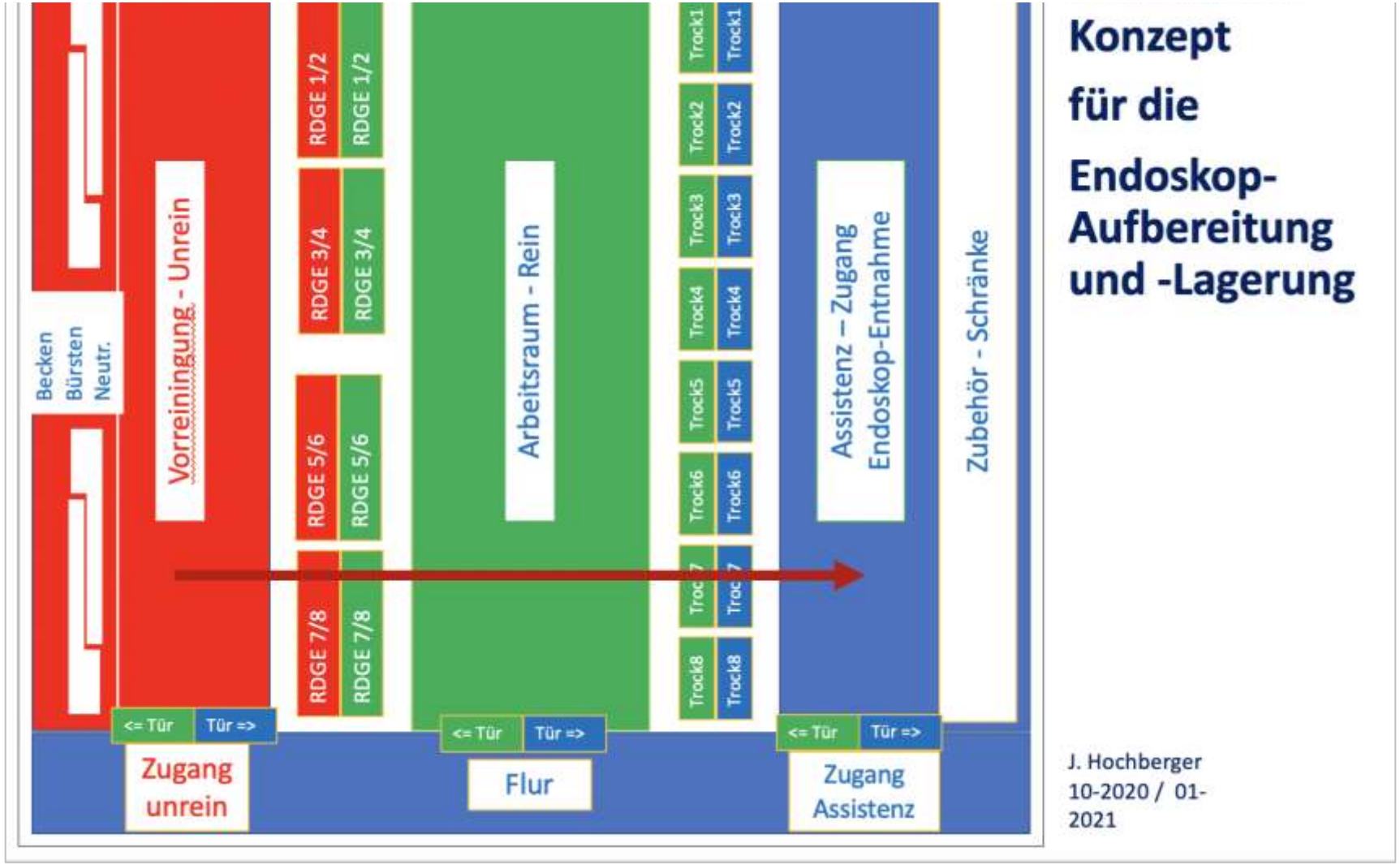
Handling POEM & Esophageal ESD

- Start steril
- end up low-germ

Extension of our unit to 7000 square feet

Three-space concept of the reprocessing unit

Contaminated **Clean** **Access to endoscopes & equipm.**



Three space endoscope reprocessing unit

Handling POEM & Esophageal ESD

- Sterile endoscope handling
- Avoidance of contamination

- First priority: patient safety!
- POEM
- Z-POEM
- G-POEM
- etc.

- ESD ….

Photo with
permission of patient
and parents

Take-off

Thank you, Pete!

Thank you for your friendship all these years!

Thank you for your friendship all these years!

Thank You!

Juergen Hochberger
Pete Stevens Lecture 2024

NYSGE
48th Annual
New York Course

CHARITÉ
UNIVERSITÄTSMEDIZIN BERLIN

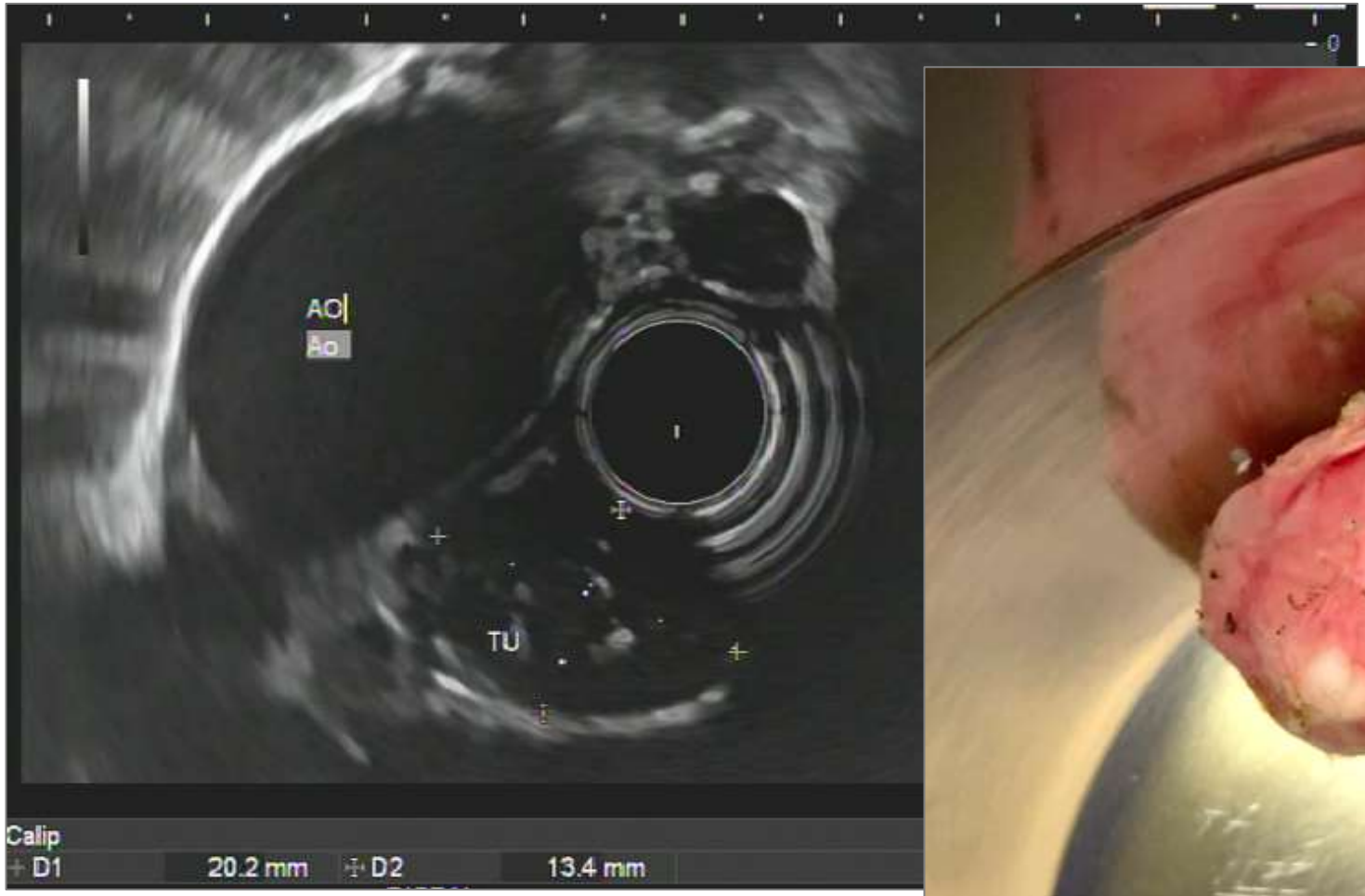
Charité Virchow Campus

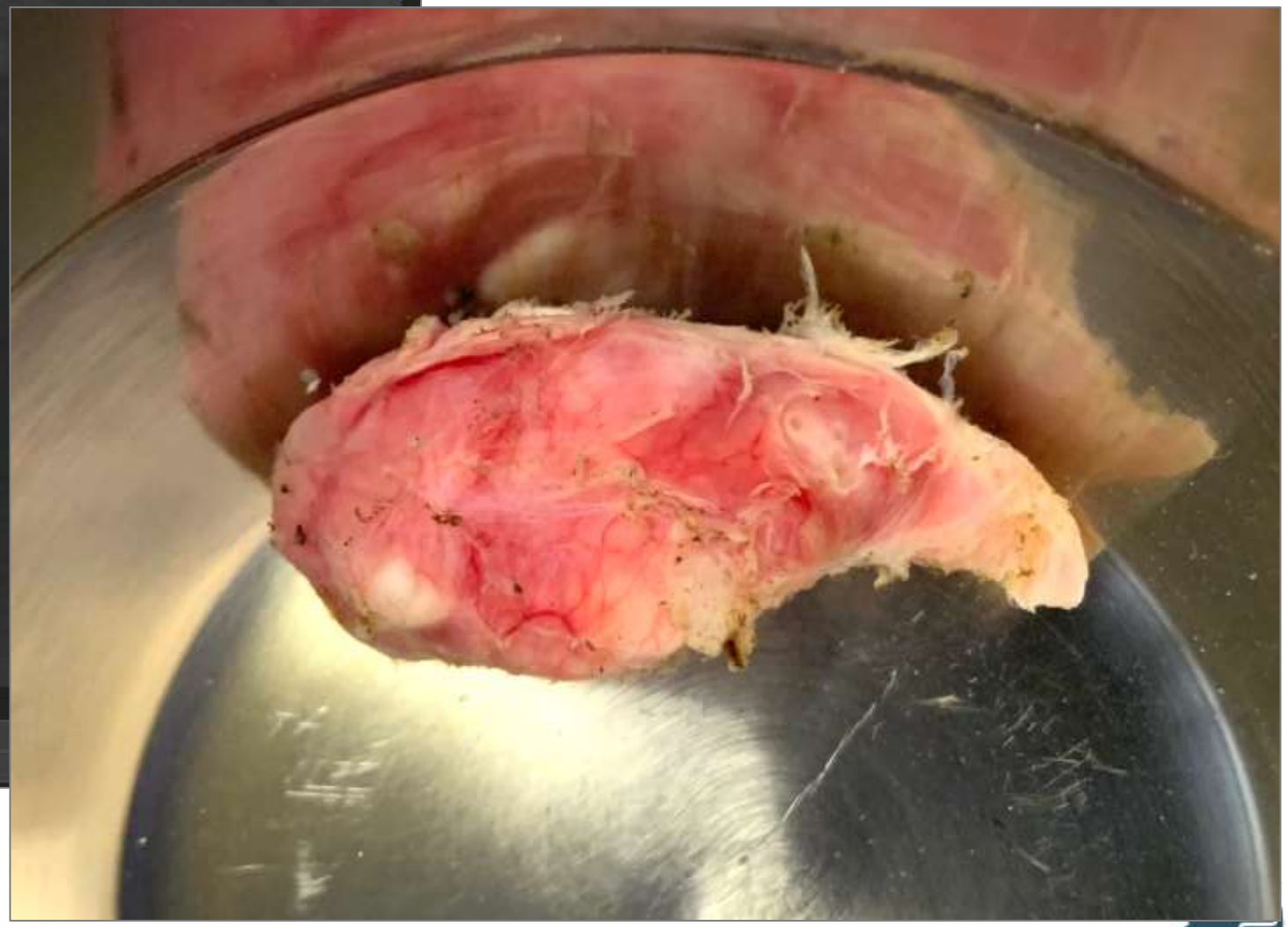
Starting March 1st, 2025

Juergen Hochberger
Pete Stevens Lecture 2024

NYSGE
48th Annual New York Course

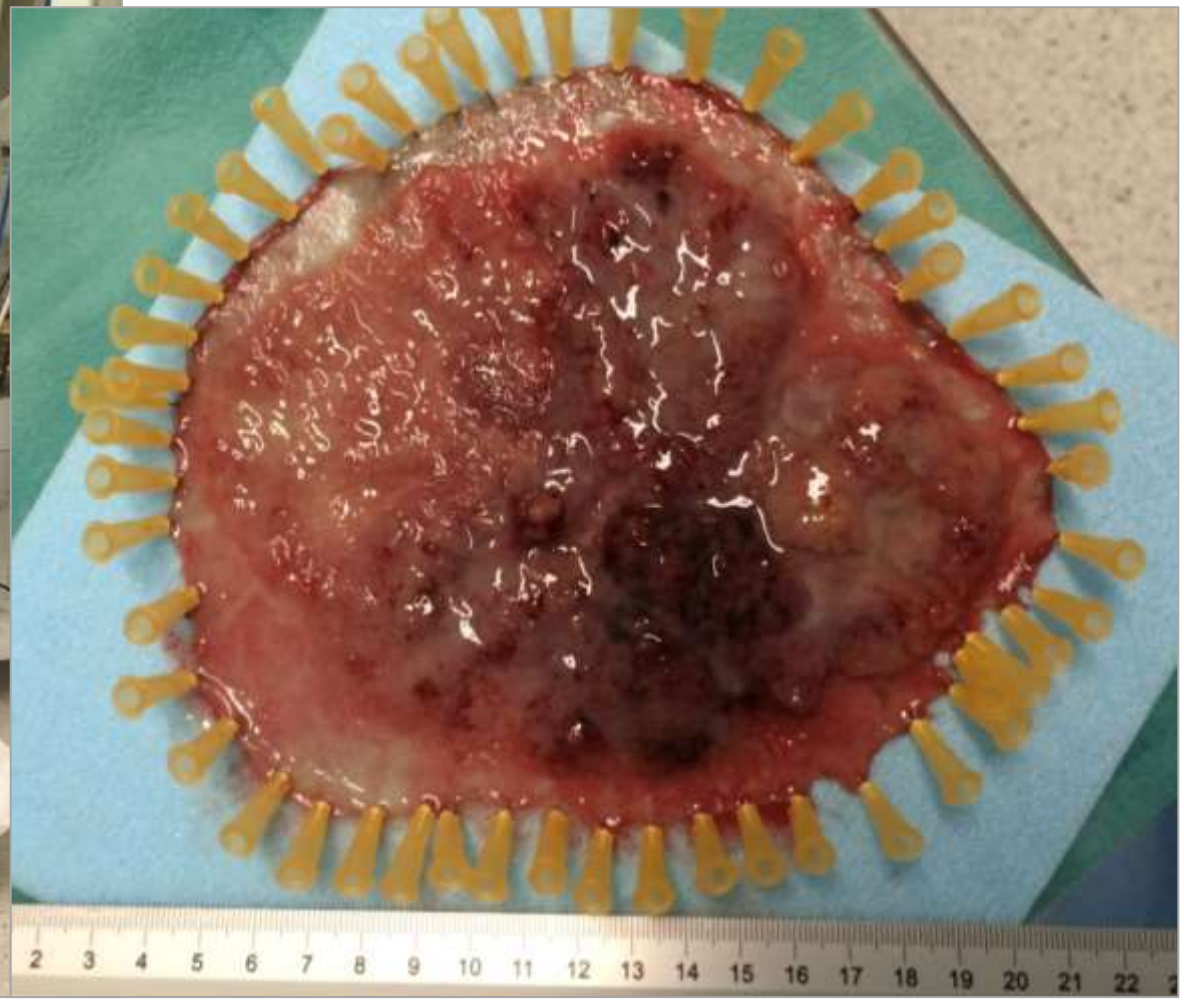
Calcified esophageal leiomyoma after gastric GIST





Hochberger J, 03-2009

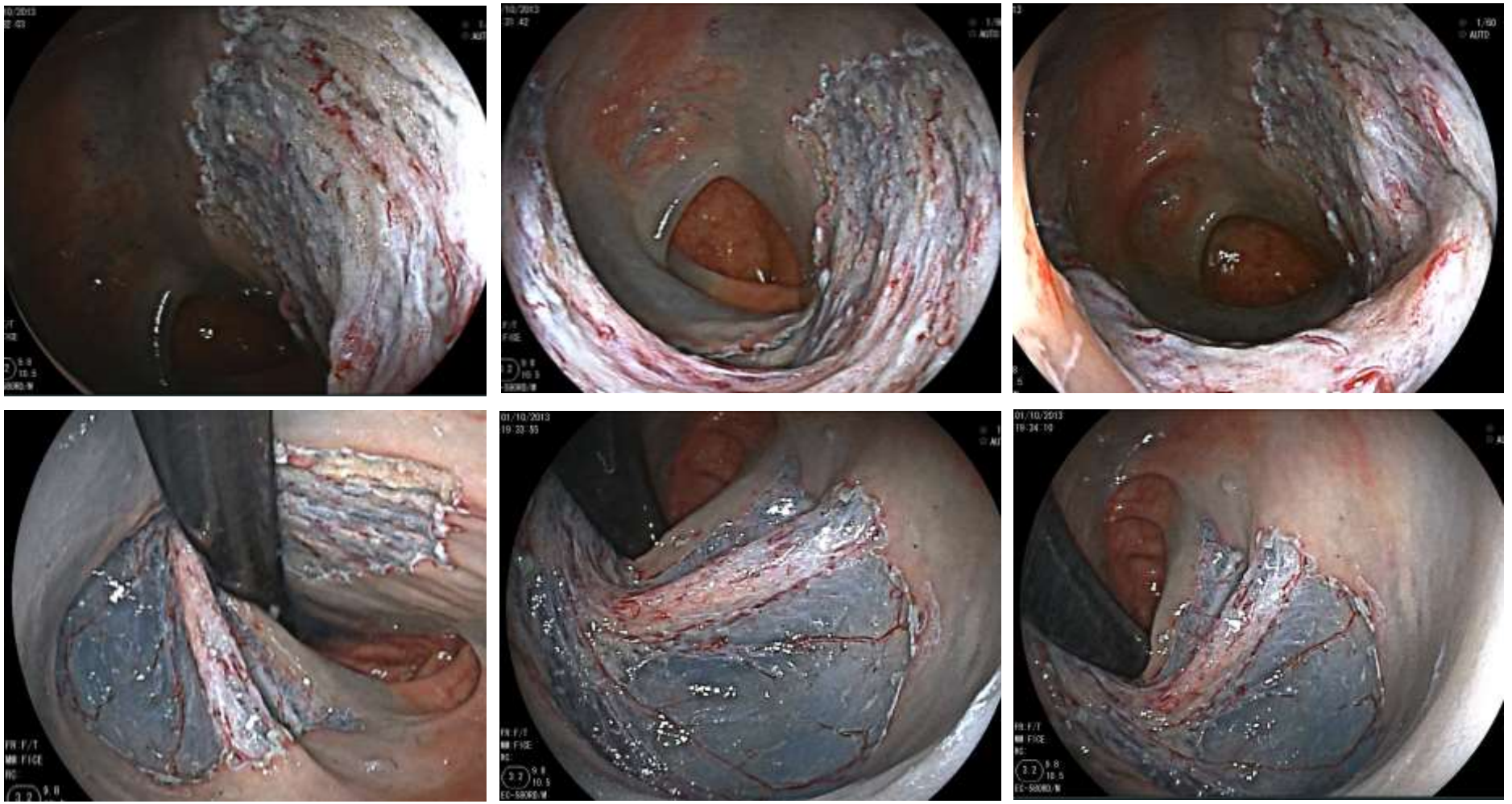
Large rectal ESD (18 cm)



Tubular ESD Recto-Sigmoid 17 cm

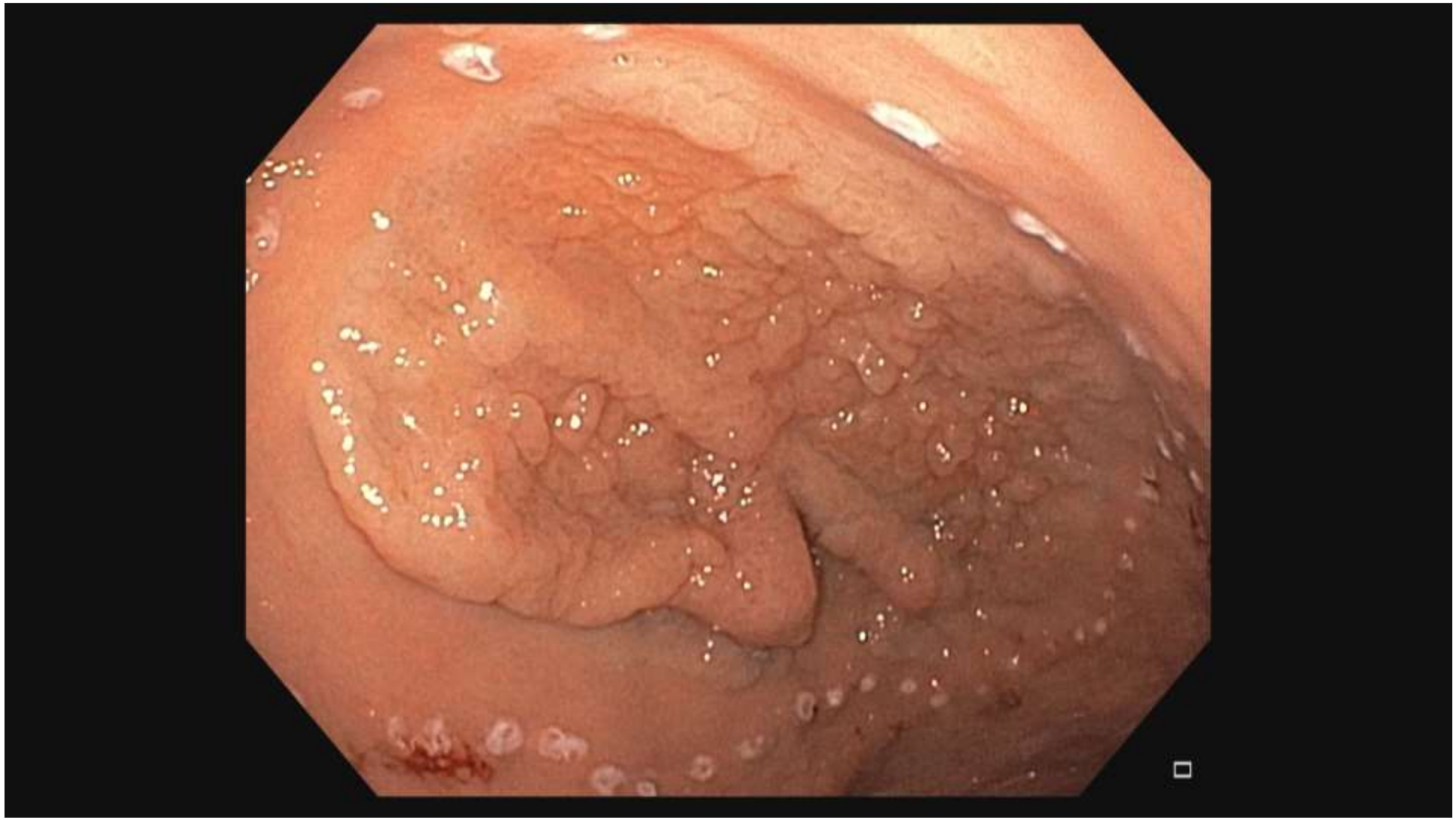
NYSGE
48th Annual
New York Course

ESD right colonic flexure



NYSGE
48th Annual
New York Course

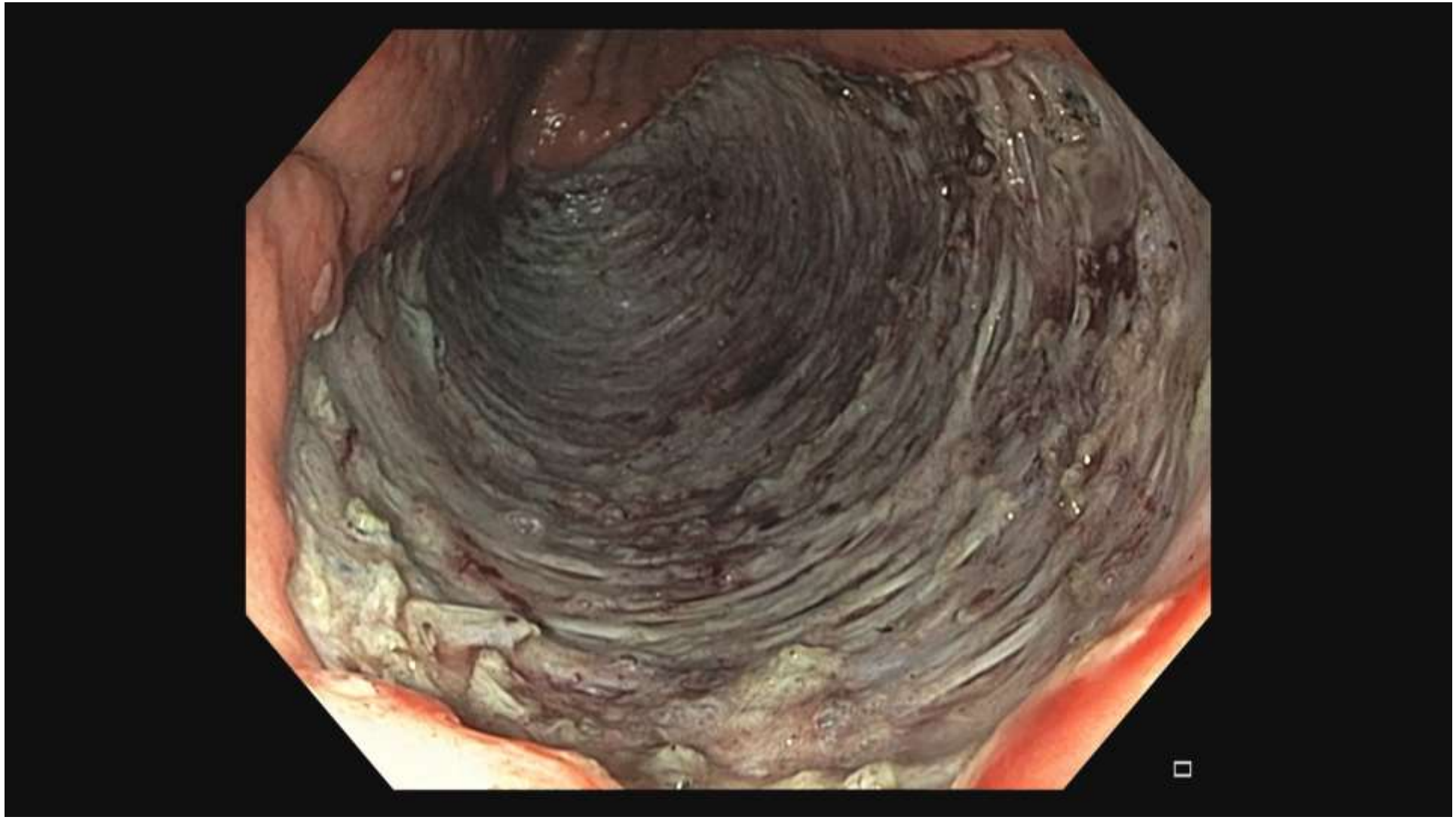
Gastric widespread adenoma - Fam. Adenom. Polyposis (FAP)



NYSGE
48th Annual
New York Course

12.3 x 9.2 cm – Adenoma HGIN – R0

Resection site in stomach



Submucosal infiltration alone is a low risk for LNM

Gastroenterology 2022;163:174–189

Deep Submucosal Invasion Is Not an Independent Risk Factor for Lymph Node Metastasis in T1 Colorectal Cancer: A Meta-Analysis

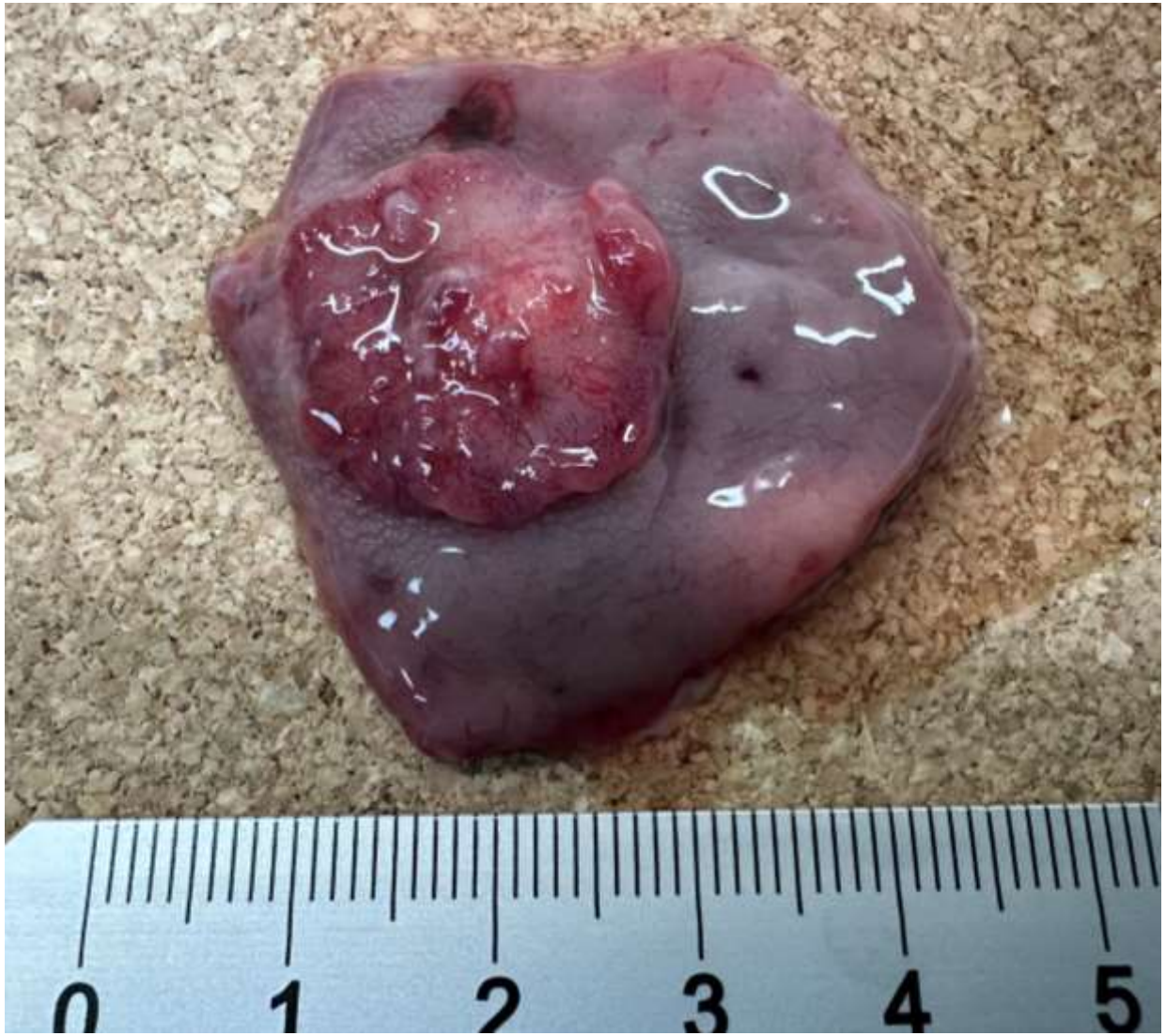
Liselotte W. Zwager,[1,2,3] Barbara A. J. Bastiaansen,[1,2,3] Nahid S. M. Montazeri,[4] Roel Hompes,[5] Valeria Barresi,[6] Katsuro Ichimasa,[7] Hiroshi Kawachi,[8] Isidro Machado,[9] Tadahiko Masaki,[10] Weiqi Sheng,[11] Shinji Tanaka,[12] Kazutomo Togashi,[13] Chihiro Yasue,[14] Paul Fockens,[1,2,3] Leon M. G. Moons,[15] and Evelien Dekker[1,2,3]

[1]Amsterdam University Medical Centers location University of Amsterdam, Department of Gastroenterology and Hepatology, Amsterdam, the Netherlands; [2]Amsterdam Gastroenterology Endocrinology Metabolism, Amsterdam, the Netherlands; [3]Cancer Center Amsterdam, Amsterdam, the Netherlands; [4]Biostatistics Unit, Department of Gastroenterology and Hepatology, Amsterdam University Medical Center, University of Amsterdam, Amsterdam, The Netherlands; [5]Department of Surgery, Amsterdam University Medical Center, Amsterdam Cancer Center, University of Amsterdam, Amsterdam, The Netherlands; [6]Department of Diagnostics and Public Health, University of Verona, Verona, Italy; [7]Digestive Disease Center, Showa University Northern Yokohama Hospital, Tsuzuki, Yokohama, Japan; [8]Department of Pathology, Cancer Institute Hospital, Japanese Foundation for Cancer Research, Tokyo, Japan; [9]Pathology Department, Instituto Valenciano de Oncología and Patologika Laboratory Hospital Quiron Salud, Valencia, Spain; [10]Department of Surgery, Kyorin University, Shinkawa, Mitaka City, Tokyo, Japan; [11]Department of Pathology, Fudan University, Shanghai Cancer Center, Shanghai, China; [12]Department of Endoscopy, Hiroshima University Hospital, Hiroshima, Japan; [13]Coloproctology, Aizu Medical Center, Fukushima Medical University, Aizuwakamatsu, Fukushima, Japan; [14]Department of Gastroenterology, The Cancer Institute Hospital, Japanese Foundation for Cancer Research, Koto-ku, Tokyo, Japan; and [15]Department of Gastroenterology and Hepatology, Utrecht University Medical Center, Utrecht, The Netherlands

GI CANCER

NYSGE
48th Annual New York Course

Endoscopic Intermuscular Dissection (EID)



Inner muscular layer at the base of the specimen

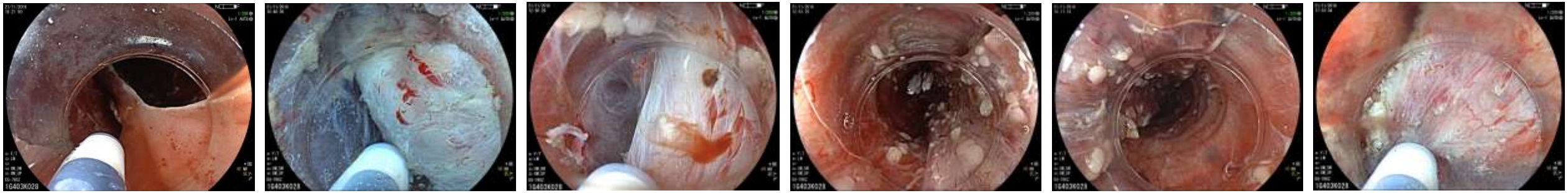
NYSGE
48th Annual
New York Course

Perspectives 2022 - 2025

Expansion of the Endoscopy Unit to 6 rooms and 7000 sqm

NYSGE
48th Annual New York Course

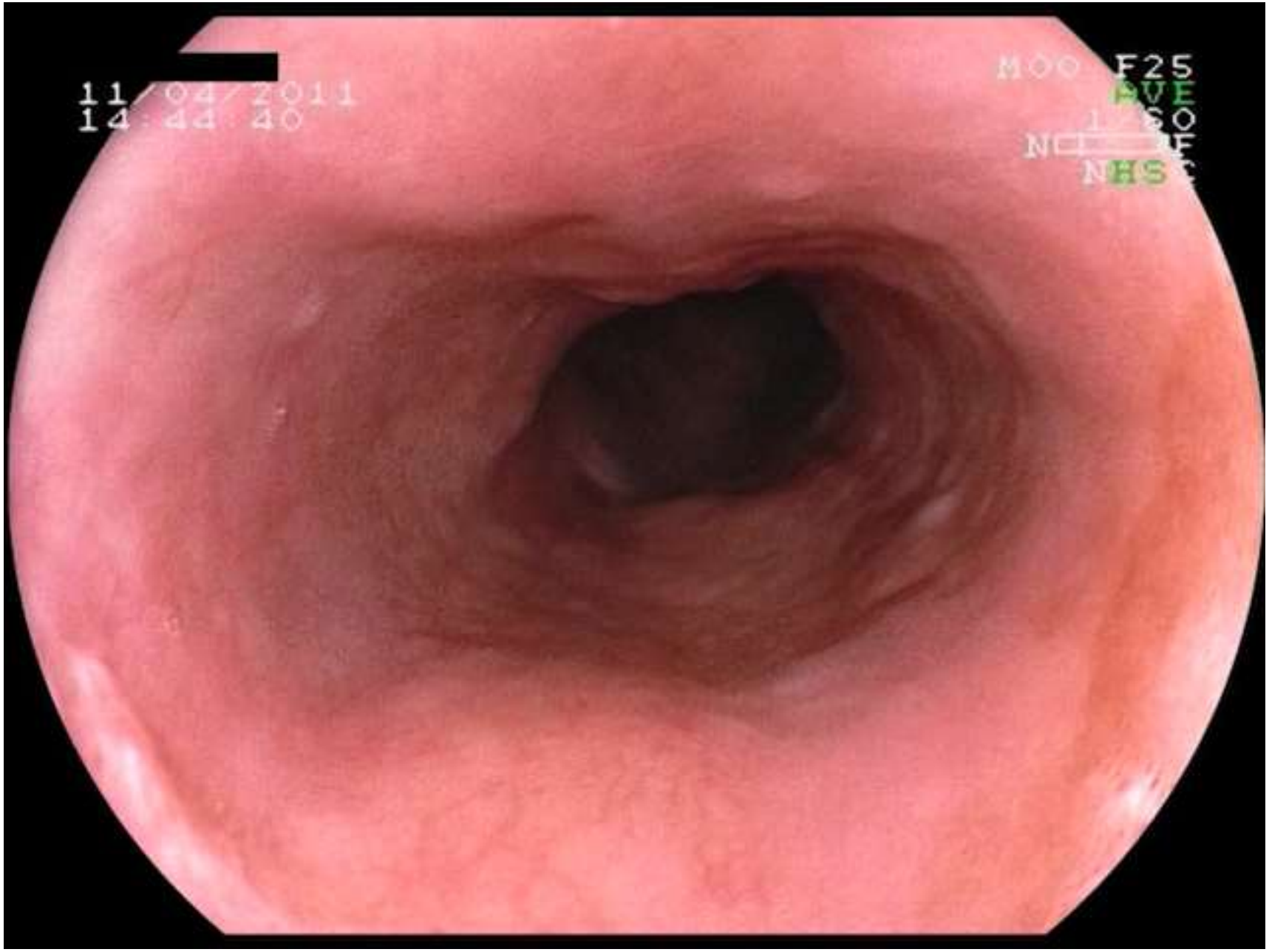
Lasers, Training, ESD and Third-space Endoscopy



Juergen HOCHBERGER
Chairman of Gastroenterology and Interventional Endoscopy
Vivantes-Klinikum im Friedrichshain
Berlin Germany

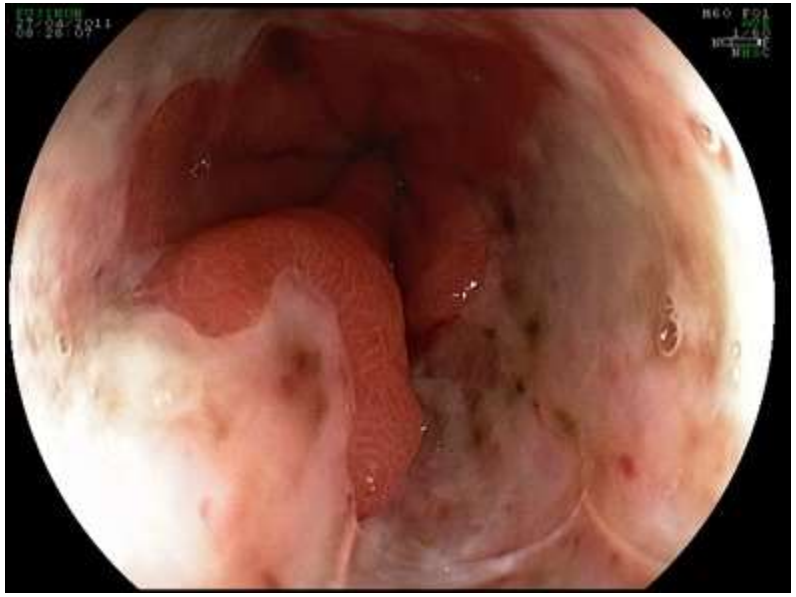
NYSGE
48th Annual New York Course

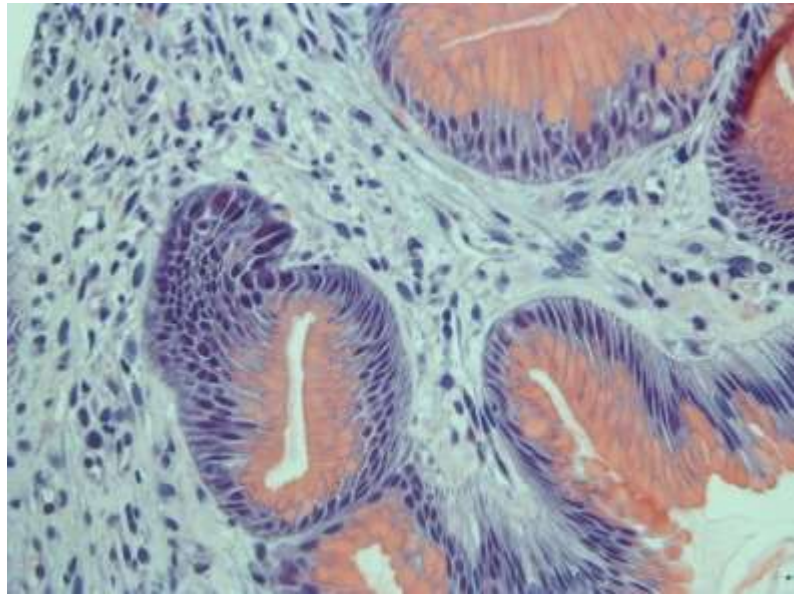
Early SCC in the cervical esoph.



Gastroenterology 2014;146:906–909

NYSGE
48th Annual
New York Course



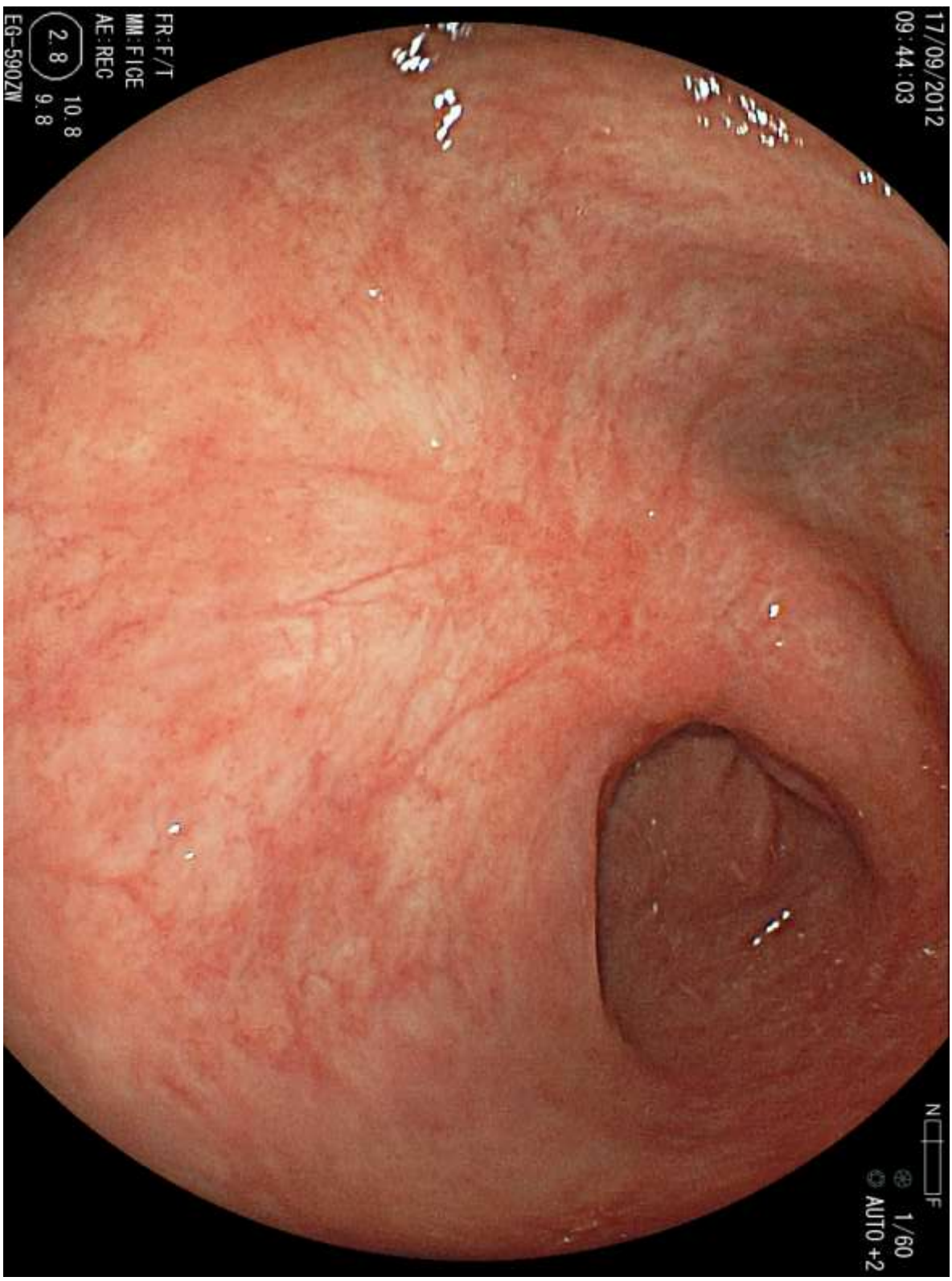


6 mois après extension de muqueuse gastrique HP négative sur 80-100% de la circonférence oesophagienne

Gastroenterology 2014;146:906–909

Hochberger 2011

Superficial scar, gastric antrum



Hochberger 2012

First Transplantation of Intestinal Mucosa to the Esophagus after local Scar Excision

RATGEBER & WISSEN

Gewebe in Speiseröhre verpflanzt

Vivantes-Klinikum: Erste Operation dieser Art in Deutschland. Krebspatient kann wieder essen

„Die Medizin lebt von solchen innovativen Ansätzen"

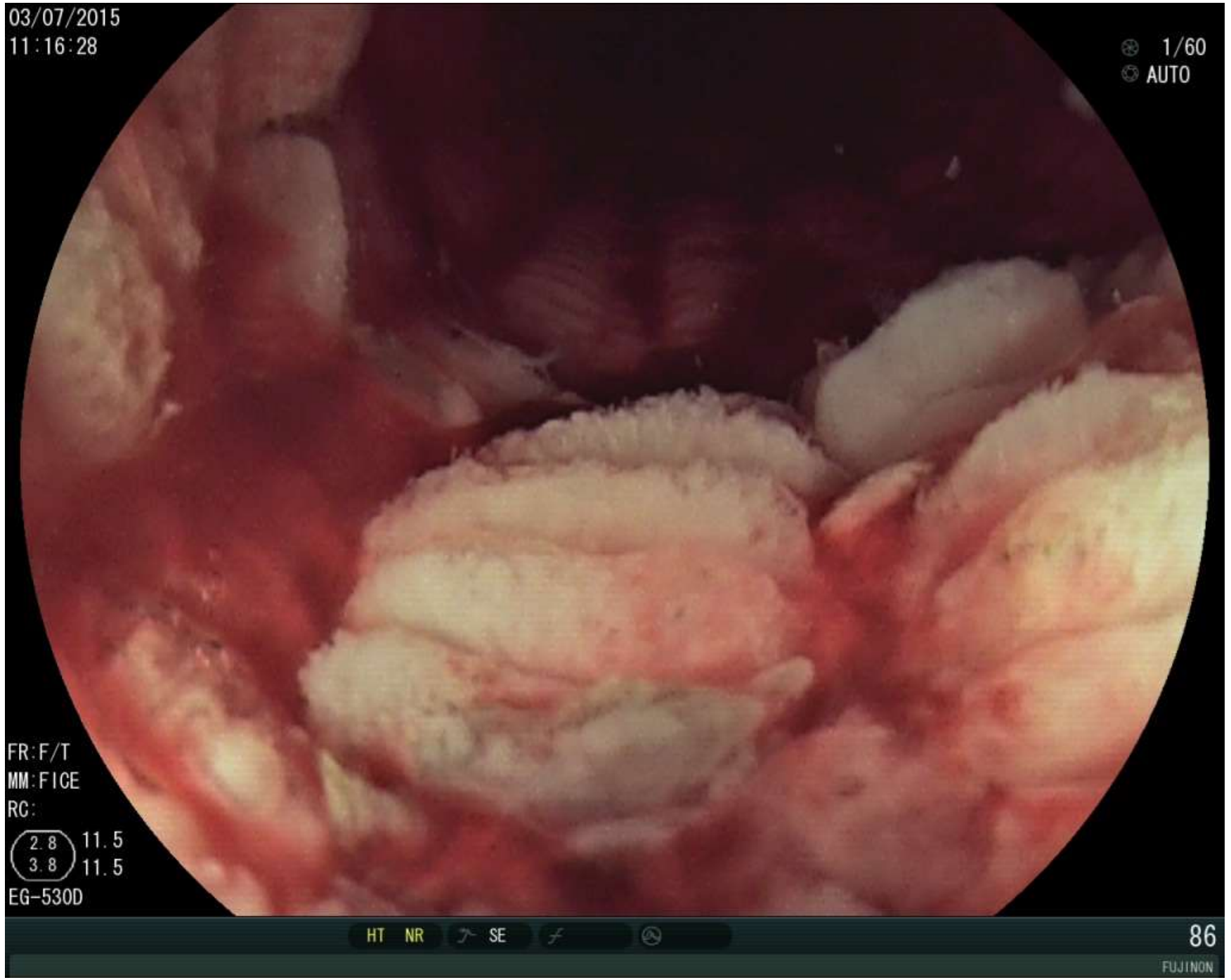
Warnzeichen

Performed December 7th, 2016 in Berlin Friedrichshain Hospital
Berliner Morgenpost, Febraury 16th, 2017

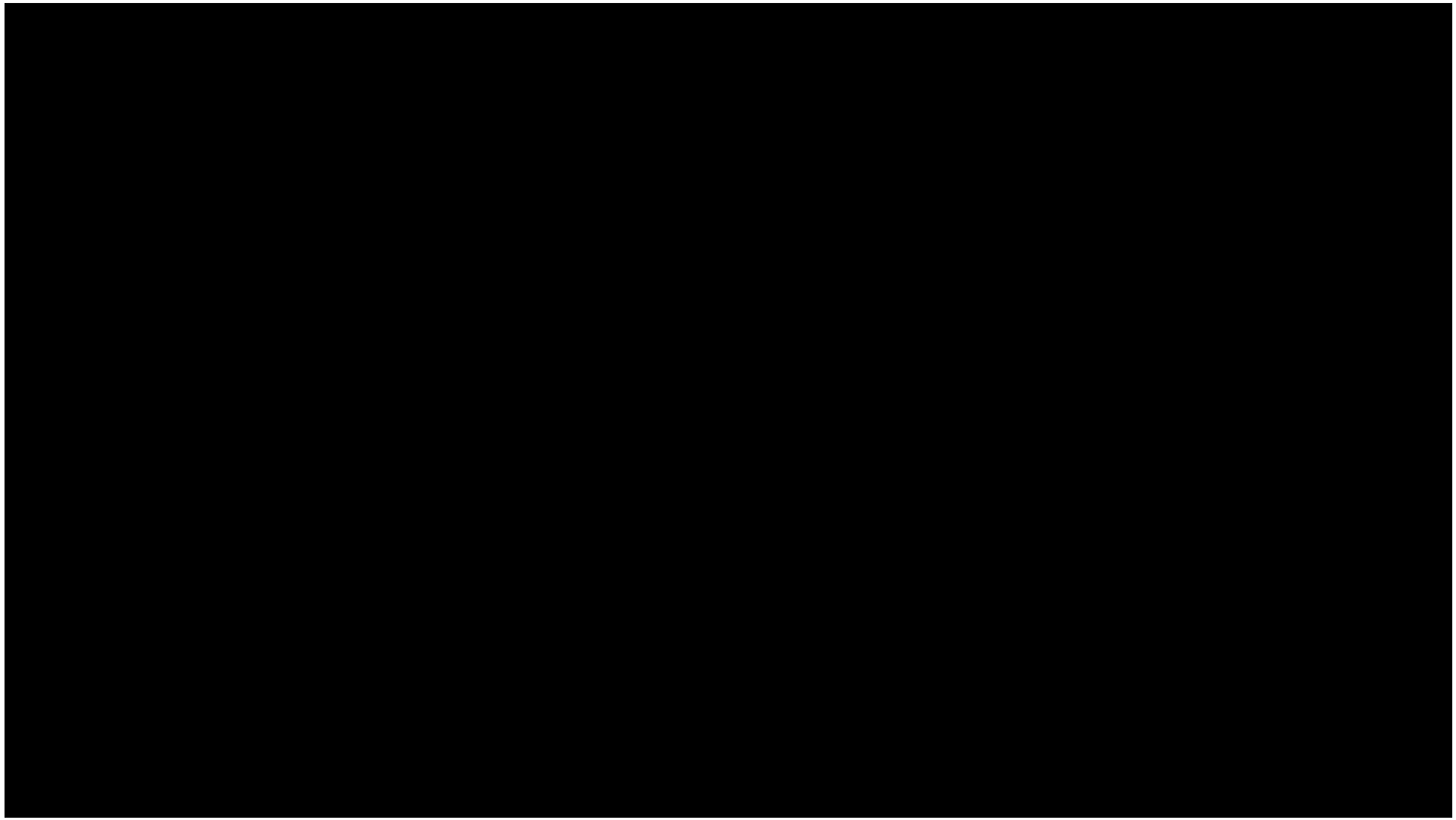
NYSGE
48th Annual New York Course

7 Tage nach TPX
am Schwein

7 Tage nach TPX
am Schwein


03/07/2015
11:16:28
1/60
AUTO
FR:F/T
MM:FICE
RC:
2.8
3.8
11.5
11.5
EG-530D
HT
NR
SE
86
FUJINON

Transplantation of Small Intestinal Mucosa to the Esophagus
December 7th, 2016



NYSGE
48th Annual
New York Course

What counts …….

NYSGE
48th Annual
New York Course

NEW YORK SOCIETY FOR GASTROENTEROLOGY & ENDOSCOPY
48th Annual
NEW YORK COURSE
December 12-13, 2024 • New York, NY

Peter Steven's Lecture 2024: My Journey In Interventional Endoscopy

Juergen Hochberger, M.D. PhD

Chairman Dept of Gastroenterology

Vivantes-Klinikum im Friedrichshain, Berlin, Germany