Editorial

René H. Fortelny

Published online: 27 February 2017
© euratom: Sigmund Freud University, Vienna; © European Union 2017

It is a privilege and honor to present the current issue of *European Surgery* at the ESH meeting in Vienna, which is full of highlights regarding state-of-the-art hernia surgery. The articles included reflect on the most discussed topics in the hernia field and represent an ideal complement to the sessions at the Vienna EHS congress.

Since the fundamental work of Eduardo Bassini in the nineteenth century, various major steps were taken in hernia surgery. One of the most influencing new techniques was the use of synthetic material by Aquaviva and Bonnet in 1944. Later, in 1955, Francis Usher introduced the Marlex mesh followed by Irvin Lichtenstein in 1964, which was the actual paradigm shift in inguinal hernia surgery. The fundamental work of René Stoppa and Jaques Rives in 1969 and 1973, respectively, the retromuscular mesh repair in incisional hernia, as well as the extraperitoneal mesh repair in inguinal hernia played a crucial role in the development of hernia surgery in general, especially for the development of endoscopic hernia surgery.

Mesh-enforced surgical procedures represent an essential part of inguinal, ventral, and incisional hernia repair. The development of new synthetic meshes has aimed at reducing foreign body reaction and improving integration by optimizing porosity while reducing the quantity of permanent polymers (e.g., partially absorbable meshes) leading to a reduction of mesh weight. However, severe complications such as mesh ruptures have been observed, leading to a new discussion concerning mesh strength.

A further heavily discussed topic is the correct indication and cost factor of the frequently criticized bi-

ological meshes. Substantial effort has been directed at improving integration and remodeling, so far with a lack of convincing studies.

The development of less expensive synthetic biore-sorbable meshes as an alternative to biologics led to a specific discussion regarding the necessity of permanent meshes for special indications (e.g., prophylaxis) and contaminated surgical fields (e.g., grade 3 CDC classification). Although a few studies seemed to be quite promising, the long-term results are still lacking.

At the same time, several cases of coated meshes used for laparoscopic treatment of ventral and incisional hernias have been observed to lead to severe late-onset complications such as abscess or mesh migration. Some of these complications were found 15 years after surgery leading to a discussion on avoiding the intraperitoneal position of meshes (“get the mesh out of the intraperitoneal cavity”).

The ideal anatomical location for mesh placement regarding optimal integration and prevention of infection is the retromuscular position. Based on this rationale, multiple techniques have been developed recently, for example, the MILOS technique (minimal invasive less open sublay) by Wolfgang Reinpold using a transhernial approach, eMILOS, which represents a modification by Reinhard Bittner using an endoscopic approach, and the use of a linear stapler for the reconstruction of the linea alba – the “stapler Rives” – a technique originally described by Thiago Costa 2014 and modified by David Chen.

Even the classic anterior component separation technique first described by Albanese as early as 1946 and known as Oscar Ramirez plasty was modified and developed by Bernhard Dauser using minimal access in combination with an optic cutting system (endoscopic ACS).

Univ.-Prof. Dr. R. H. Fortelny (✉)
Allgemein-, Viszeral- und Tumorchirurgie,
Wilhelminenspital, Montleartstraße 37, 1160 Wien, Austria
rene.fortelny@wienkav.at

The TAR (transversus abdominis release) procedure, which was developed in the USA by Michael Rosen and his group, is widely used for tension reduction in midline closure. It seems to be perfectly feasible to combine these new techniques with the use of the new robotic systems. All these new innovative techniques are described in detail in the following articles.

Another new procedure, the so-called endoscopic-assisted linea alba repair (ELAR), has been developed by Ferdinand Köckerling especially for the repair of diastasis recti that is often combined with umbilical hernia. This technique uses a minimally invasive trans-umbilical approach and a placement of the mesh anterior to the rectus muscle.

In my view, probably the most essential aspect of “Innovations in Hernia Surgery” is adequate, up-to-date hernia-specific surgical training and education.

The specific requirements of special approaches for hernia surgery have increased tremendously in the last decennium compared with quantitatively fewer standard surgical procedures 20 years ago especially owing to the tailoring of the different procedures to each hernia case.

Special concepts have to be developed to instruct these new techniques as well as to offer postgraduate training. This special topic is also part of the articles in this issue.

I hope to have summarized the hot topics of hernia surgery in this issue and expect that reading the articles will prove to be exciting as well as beneficial for the reader.

Conflict of interest R.H. Fortelny declares that he has no competing interests.