

**Title:**  
**Experience with the new Multi-Hole Self-Expandable Metallic Stent**

**Authors:**  
Hiroki Kato, Makoto Kobayashi

DOI: 10.17235/reed.2024.10604/2024

Link: [PubMed \(Epub ahead of print\)](#)

Please cite this article as:

Kato Hiroki, Kobayashi Makoto. Experience with the new Multi-Hole Self-Expandable Metallic Stent. Rev Esp Enferm Dig 2024. doi: 10.17235/reed.2024.10604/2024.

*This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.*

Title

Experience with the new Multi-Hole Self-Expandable Metallic Stent

Hiroki Kato M.D., Makoto Kobayashi M.D., Ph.D.

Department of Gastroenterology, Yokkaichi Municipal Hospital, Mie, Japan

Corresponding author

Hiroki Kato M.D.

Department of Gastroenterology

Yokkaichi Municipal Hospital, Mie, Japan

2-2-37, Shibata, Yokkaichi, Mie, JP 516-8512

Phone +81593-54-1111

Fax +81593-52-1565

Email: ayumisutiru@yahoo.co.jp

Author's contributions to the manuscript: each author's contribution(%)

Conception and design: Kato H(50%)and Kobayashi M(50%)

Drafting of the article: Kato H(50%),Kobayashi M(50%)

Keywords:

ERCP, biliary drainage, Multi-hole self-expandable metallic stent, metallic stent, pancreatic cancer, cholangiocarcinoma

Main text

A multi-hole self-expandable metallic stent (M.I.Tech/Boston Scientific: MHSEMS) has small holes in the cover part of FCSEMS and has properties in common with UCSEMS and FCSEMS. The MHSEMS was originally a FCSEMS with holes in all cells<sup>1)2)</sup>. In the

distal bile duct, the MHSEMS has the potential to prevent migration by allowing tissue to enter the small holes. In the hilar region, the MHSEMS can potentially prolong the duration of patency of the central bile duct by preventing ingrowth, by covering the branches without impeding them. However, as there were reports of cases of inoperable removal due to ingrowth overseas, the model launched in Japan in 2022 had fewer holes, and the cover of the Hanarostent Biliary Full Cover NEO (M.I. Tech/Boston Scientific) had a row of holes in every other row. It was used in 7 cases of malignant biliary obstruction, the primary diseases were gallbladder cancer, cholangiocarcinoma and pancreatic cancer. The obstruction sites were the hilar region and the distal bile duct. All patients underwent successful implantation with no reported pancreatitis or cholangitis. Five patients continued chemotherapy. One gallbladder cancer patient died after 20 days, one cholangiocarcinoma patient experienced obstruction after 81 days, and the other five cases showed no evidence of obstruction or deviation (ranging from 6 to 119 days after implantation, with an average of 75 days).

MHSEMS can be used for malignant biliary obstruction, mainly in the distal bile duct.

232words

Conflicts of Interest: None.

Funding information: None.

Data availability: None.

## References

1. M Kobayashi. Development of a biliary multi-hole self-expandable metallic stent for bile tract diseases: A case report. J Clin Cases. 2019;7:11:1323-8.

2. Kulpatcharapong S, Piyachaturawat P, Rerknimitr R et al. Efficacy of multi-hole self-expandable metal stents versus fully-covered self-expandable metal stents in patients with unresectable malignant distal biliary obstruction: a prospective cohort study with propensity score matching. *Gastrointest Endosc.* 2022;91:6:345

Figure 1

A case where MHS was helpful in hilar cholangiocarcinoma.

Other

The New Multi-hole self-expandable metallic stent.