M.I.Tech

Esophageal Stent for Benign Stricture

Application for Use

- Fistula on normal esophagus
- Benign Stricture as follows
  1. Corrosive stricture
  2. Anastomotic stenosis after gastro-esophageal surgery
  3. Esophageal web
  4. Reflux esophagitis

Advantages

- **Minimizing the development of granulation tissue** as a result of contact improvement between the mucosa and the metal stent compared to using the conventional covered esophaeal stent.
- **Easy to remove** due to the smooth surface and stent lasso.

Order Number	Stent		Delivery Device	
	Diameter(mm)	Length(mm)	Diameter(mm)	Usable Length(mm)
EBN18060-Z070	18	60	8	700
EBN18120-Z070	18	120	8	700
EBN20060-Z070	18	60	8	700
EBN20120-Z070	18	120	8	700
EBN22060-Z070	20	60	8	700
EBN22120-Z070	20	120	8	700
EBN24060-Z070	20	60	8	700
EBN24120-Z070	20	120	8	700

Animal study between a conventional stent and a new stent for the benign stricture

Methods

- Six dogs with the weight of 8kg~10kg have been prepared and grouped into three.
- Three different types of metallic stents have been inserted into each group.
- Tissue reaction has been observed every 2 weeks until the week of 8th by endoscope.
- After the animal was killed at 8th week, the gross tissue was reviewed by pathologist.

**The result of one group is excluded since it did not meet the purpose of study.*

Conventional Stent

▶Endoscopic view


insertion


2 weeks

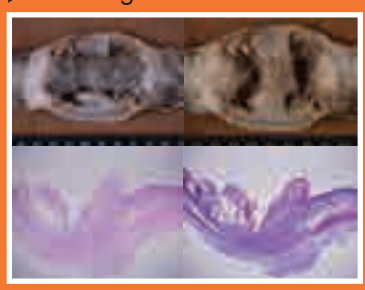

4 weeks


6 weeks


8 weeks

Tissue response has started to develop at the 2nd week from the insertion of a conventional stent. At the 4th week, granulation tissue was found and the stent became completely embeded into the esophageal mucosa at the 6th week. At the 8th week, massive granulation tissue resulted in partial esophageal stricture.

▶Pathological view

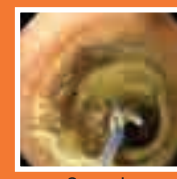


A conventional stent is impacted and adhered to the esophageal wall. There is large ulceration and marked exuberant granulation tissue at the both proximal and distal parts of stent. Microscopic finding demonstrates large mucosal defect, marked granulation tissue, collagenous fibrosis, loss of submucosal glands and proper muscle layer.

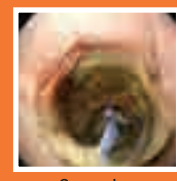
NEW Esophageal stent

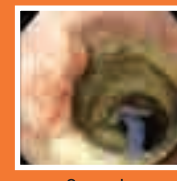
▶Endoscopic view


insertion


2 weeks


4 weeks


6 weeks


8 weeks

No tissue response has been found during the first 2 weeks from the insertion of a newly designed stent. At the 4th week, tissue response was found on the focal portion of proximal end and the granulation tissue was partially observed at the 6th week. At the 8th week, the size of granulation tissue increased slightly but no tissue response was observed in other sites.

▶Pathological view

A newly designed stent is noted within the esophagus. There is focal ulceration with small amount of granulation tissue and focal mucosal regeneration after the removal of the stent. Microscopic finding demonstrates focal small ulcer, marked submucosal thickening by granulation tissue and fibrosis, focal loss of muscle layer, epithelial hyperplasia, and residual small amount of submucosal glands.

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