仁安醫院
UNION HOSPITAL

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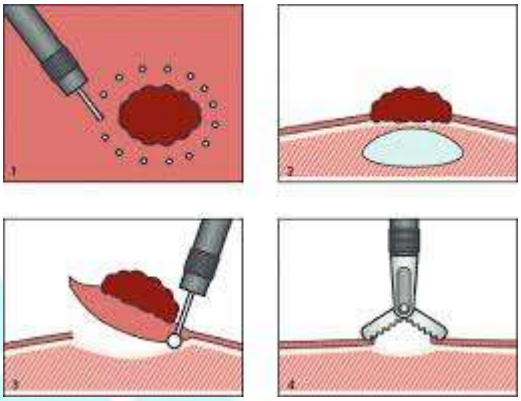
Procedure Information

Endoscopic Submucosal Dissection (ESD)

Introduction

Endoscopic Submucosal Dissection (ESD) is an advanced endoscopic procedure used to remove superficial gastrointestinal neoplasms which not yet infiltrate to the muscle layer. ESD has been applied to esophageal, gastric and colorectal neoplasms with favorable short-term results. This procedure consists of three steps which include injecting fluid into the submucosal layer to elevate the lesion, cutting the surrounding mucosa of the lesion and dissecting the submucosa beneath the lesion.

The technique of ESD has been employed for treating urothelial carcinoma. A small-scale study found that bladder tumor ESD may be safer and more effective than conventional dissection technique.



Source: https://www.researchgate.net/figure/Endoscopic-submucosal-dissection-1-Marking-borders-of-the-tumour-with-electrocautery_fig4_319982251

Indications

1. Early gastric cancer
2. Early esophageal cancer
3. Early colorectal cancer
4. Larger polyp
5. Submucosal tumor

Outcomes

The expected outcome of this procedure is determined on different indications. The aim of this surgical procedure is to remove neoplasms which embedded only in submucosal layers of the involved organs in order to prevent the risk of morbidity.

Procedures

1. The procedure can be performed under general anaesthesia, local anaesthesia, or intravenous sedation.
2. An endoscope is passed through the throat, anus or bladder into the position of the lesion.
3. It is normal to experience abdominal bloating.
4. A fluid is injected into the submucosa to elevate the lesion.
5. The surrounding mucosa of the lesion is removed.
6. The submucosa beneath the lesion is dissected.
7. The area is stitched if needed.

Possible Risks and Complications

- Bleeding: Intraprocedural bleeding is common and expected (5-10%) in gastrointestinal ESD. Most cases can be treated within the endoscopic procedure. Very rare cases (<0.5%) were reported that urgent surgery is needed to control the bleeding. Incidence of postprocedural bleeding as follows:
    - Esophageal ESD 1-5%
    - Gastric ESD 5-10%
    - Colorectal ESD 1-5%
- Perforation: Almost all perforations can be recognized intraprocedurally and amenable to clip closure. Incidence of intraprocedural and postprocedural perforation as follows:
    - Esophageal ESD 1-5%
    - Gastric ESD 1-5%
    - Colorectal ESD 5-10%
- Stricture: The risk of gastrointestinal stricture is reportedly proportional to the extent of mucosal dissection and depends on the site of operation.
- Incomplete removal: Due to pathology of deep submucosal invasion, the risk of incomplete removal can be varied from 10-20%.
- Urinary Bladder ESD: Only limited study reported on the incidence of complications of bladder ESD. There is no report on postprocedural bleeding, perforation and ureteral stricture among 95 cases. Rate of incomplete removal is around 1% and rate of obturator jerk (a powerful adductor spasm of the leg which increase risk of perforation) is around 2%.

** The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all operations are carried out with utmost professionalism and care, this does not rule out the possibility of complications arising. In the event of peripheral organ damage or post-operative haemorrhage or leakage, further operations may be required.

Pre-procedure Preparations

1. You should avoid driving to attend the day-care procedure. Elderly patients and those with difficulty in walking should be accompanied by a family member.
2. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the procedure.
3. Please inform the doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia. Please inform doctor if you are taking medications that affect blood coagulation, such as Aspirin, Warfarin, Xarelto or Pradaxa and Chinese medication.
4. Routine pre-procedural investigation such as blood test and ECG may be performed.
5. Oral bowel preparation is needed if ESD is performed in the colon. You will be instructed to
    - Stop taking all iron supplements at least 3 days before the procedure.
    - Take food low in fibre 3 days before the procedure. Avoid foods such as fruit, vegetables, cereals, brown bread and nuts.
    - Take only clear fluid, e.g. soup and rice water 1 day before the procedure.
    - Drink bowel cleansing agent as prescribed the night before the procedure to wash out faeces from the colon.
6. Rectal laxative may be used for colorectal ESD.
7. No food or drink eight hours before the procedure. (For general anaesthesia only)
8. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewelry and contact lenses.
9. Please empty your bladder before the procedure.

Post-procedure Instructions

1. You may experience a feeling of bloating. Passing flatus helps to relieve the discomfort.
2. Follow the instruction by the surgeon, diet may be gradually resumed after recovery from anaesthesia.
3. Medication works by decreasing the amount of acid in stomach is usually administered to gastric and esophageal ESD patients to prevent postoperative bleeding.
4. Most patient can be discharged on the same day of the procedure. However, patient who has suspected perforation with clip closure performed may need to stay in hospital for antibiotics treatment and observation for a few days.
5. If intravenous sedation is used, you should avoid operating on heavy machinery, driving or signing legal documents for the rest of the day.
6. A follow-up endoscopy 3 to 6 months after resection may be arranged.

Advice on Discharge

1. Immediately consult your doctor or return to hospital for professional attention in the event of abdominal distension or pain, haematemesis (vomiting blood), passing black stool or bloody stool, passing bloody urine, shivering, fever over 38℃ or 100℉ , or any other unusual symptoms.
2. Any follow-up consultations should be attended as scheduled.

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

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Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details
Our Hospital reserves the RIGHT to amend any information in this leaflet without prior notification