

Submission ID #: 68990

Scriptwriter Name: Pallavi Sharma

Project Page Link: <https://review.jove.com/account/file-uploader?src=21041998>

Title: Evaluation of the Effectiveness of Longitudinal Incision for Endoscopic Submucosal Excavation of Gastric Subepithelial Lesions

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Author Questionnaire

1. We have marked your project as author-provided footage, meaning you film the video yourself and provide JoVE with the footage to edit. JoVE will not send the videographer. Please confirm that this is correct.

✓ Correct

2. Interview statements: Which interview statement filming option is the most appropriate for your group? **Please select one.**



Interview Statements are read by JoVE's voiceover talent.

3. Proposed interview filming date: Please indicate the proposed date that your group will self-film interviews:

.

When you are ready to submit your video files, please contact our China Location Producer, [Yuan Yue](#).

Current Protocol Length

Number of Steps: 08

Number of Shots: 11

Introduction

NOTE to VO: Please record the introduction and conclusion statements

INTRODUCTION:

~~**REQUIRED:** Summarize your research focus and the main questions it aims to answer.~~

- 1.1. This research compares longitudinal versus circular incision for endoscopic submucosal excavation to determine which is faster and safer.

- 1.1.1. [2.1.1](#)

~~Describe the research gap or limitation in existing methods and how this protocol addresses them.~~

- 1.2. Circular incision creates large defects that are hard to close. Longitudinal incision simplifies closure and shortens operative time.

- 1.2.1. [2.3.1](#)

~~Describe the research contexts or systems in which this protocol can be applied.~~

- 1.3. This technique is ideal for endoscopic removal of small gastric subepithelial lesions measuring two centimeters or less.

- 1.3.1. [2.5.1](#)

CONCLUSION:

~~What does this protocol allow researchers to study or measure?~~

- 1.4. This protocol allows precise measurement of operative time, success rates, and complications between the two incision techniques.

- 1.4.1. [Table 2](#)

~~Describe the most important consideration or challenge when performing this protocol.~~

- 1.5. The key challenge is ensuring the longitudinal incision is exactly centered over the lesion's long axis.

1.5.1. [2.4.1.](#)

Ethics Title Card

This research has been approved by the Ethics Committee of the First Affiliated Hospital of Jinan University and complies with the Declaration of Helsinki

Protocol

NOTE: The script protocol section is drafted from the available footage

2. Endoscopic Resection of Gastric Subepithelial Lesions

Demonstrator: Jingwen Liu

2.1. To begin, using a single-use electrosurgical knife, mark several dots along the lesion margin in a circular pattern 3 to 5 millimeters outside the lesion edge to define the resection boundaries [1].

2.1.1. LAB MEDIA: 68990-1.mp4: 02:03 – 02:37

2.2. For submucosal injection of indigo rouge, advance the needle deep into the tissue [1]. Inject while slowly withdrawing to ensure that the tip remains within the mid-submucosal layer [2]. Confirm that the mucosal surface elevates rapidly, uniformly, and persistently to form a smooth dome-shaped mucosal elevation [3].

2.2.1. LAB MEDIA: 68990-1.mp4: 03:16-03:23

2.2.2. LAB MEDIA: 68990-1.mp4: 03:23-03:34

2.2.3. LAB MEDIA: 68990-1.mp4: 03:45-03:54

2.3. Next, using the single-use electrosurgical knife, make a longitudinal incision through the mucosa and submucosa along the central axis of the lesion, ensuring that it surpasses the entire longitudinal dimension of the lesion [1].

2.3.1. LAB MEDIA: 68990-1.mp4: 05:03-05:10, 05:30-05:41

2.4. Carefully dissect and separate the submucosal connective tissue beneath the lesion using the electrosurgical knife [1].

2.4.1. LAB MEDIA: 68990-1.mp4: 06:20-06:34

2.5. Now, fully expose the lesion and completely free it from its attachments while preserving the underlying muscle layer as much as possible [1]. If bleeding is detected during the separation process, use the electrosurgical knife to coagulate minor bleeding vessels [2].

2.5.1. LAB MEDIA: 68990-1.mp4: 06:40-06:46, 07:59-08:20

2.5.2. LAB MEDIA: 68990-1.mp4: 06:50-07:12

2.6. Thoroughly inspect the resection defect for active bleeding or visible vessels [1]. Treat any bleeding points or high-risk vessels with single-use electrosurgical hemostatic forceps to prevent delayed bleeding [2].

2.6.1. LAB MEDIA: 68990-1.mp4: 12:00-12:20

2.7. To close the defect, first, moderately aspirate intragastric gas to approximate the defect edges and reduce the tissue gap for clipping [1]. Engage the mucosal edge on the proximal side of the defect with one jaw of the clip [2]. Then hook the distal mucosal edge with the opposite jaw [3]. Close the clip while maintaining continuous suction [4].

2.7.1. LAB MEDIA: 68990-1.mp4: 15:06-15:09

2.7.2. LAB MEDIA: 68990-1.mp4: 15:10-15:12

2.7.3. LAB MEDIA: 68990-1.mp4: 15:10-15:12

2.7.4. LAB MEDIA: 68990-1.mp4: 15:13-15:17

2.8. Next, apply clips sequentially to approximate the mucosal edges until the entire defect is fully apposed [1].

2.8.1. LAB MEDIA: 68990-1.mp4: 15:58 – 16:04, 16:56 – 17:01

Results

3. Results

- 3.1. No statistically significant differences were found in most baseline demographic and clinical variables between the improved group and the conventional group [1].
 - 3.1.1. LAB MEDIA: Table 1. *Video editor: Highlight the rows for "Gender," "Age," and "Preoperative assessed diameter" showing similar values across both groups*
- 3.2. The improved group had a significantly shorter mean operation time compared to the conventional group [1].
 - 3.2.1. LAB MEDIA: Table 2. *Video editor: Highlight the value "51.43 ± 5.56 min" in the improved group column and "70.00 ± 6.96 min" in the conventional group column under the "Operation time" row*
- 3.3. No serious postoperative complications, such as perforation or delayed bleeding, occurred in either group [1].
 - 3.3.1. LAB MEDIA: Table 2. *Video editor: Highlight the "0%" values under "Perforation" and "Delayed bleeding" rows for both groups*

1. Longitudinal
 Pronunciation link: <https://www.merriam-webster.com/dictionary/longitudinal>
 IPA: /ˌlɒːn.dʒəˈtuː.də.nəl/
 Phonetic Spelling: laan·juh·too·duh·nuhl
2. Endoscopic
 Pronunciation link: <https://www.merriam-webster.com/dictionary/endoscopic>
 IPA: /ˌen.dəˈskaː.pɪk/
 Phonetic Spelling: en·duh·skaap·ik
3. Submucosal
 Pronunciation link: <https://www.merriam-webster.com/dictionary/submucosal>
 IPA: /ˌsʌb.mjuːˈkɒs.səl/
 Phonetic Spelling: sub·myoo·koh·suhl

4. Excavation
Pronunciation link: <https://www.merriam-webster.com/dictionary/excavation>
IPA: /ˌɛk.skəˈveɪ.jən/
Phonetic Spelling: ek-skuh-vay-shuhn
5. Incision
Pronunciation link: <https://www.merriam-webster.com/dictionary/incision>
IPA: /ɪnˈsɪʒ.ən/
Phonetic Spelling: in-sizh-uhn
6. Gastric
Pronunciation link: <https://www.merriam-webster.com/dictionary/gastric>
IPA: /ˈgæs.trɪk/
Phonetic Spelling: gas-trik
7. Subepithelial
Pronunciation link: <https://www.merriam-webster.com/dictionary/subepithelial>
IPA: /ˌsʌb.ep.əˈθiː.li.əl/
Phonetic Spelling: sub-ep-uh-thee-lee-uhl
8. Lesions
Pronunciation link: <https://www.merriam-webster.com/dictionary/lesion>
IPA: /ˈliː.ʒən/
Phonetic Spelling: lee-zhuhn
9. Electrosurgical
Pronunciation link: <https://www.merriam-webster.com/dictionary/electrosurgical>
IPA: /ɪ.lek.troʊˈsɜː.dʒɪ.kəl/
Phonetic Spelling: ih-lek-troh-sur-juh-kuhl
10. Mucosal
Pronunciation link: <https://www.merriam-webster.com/dictionary/mucosal>
IPA: /mjuːˈkoʊ.səl/
Phonetic Spelling: myoo-koh-suhl
11. Indigo
Pronunciation link: <https://www.merriam-webster.com/dictionary/indigo>
IPA: /ˈɪn.dɪ.goo/
Phonetic Spelling: in-duh-goh
12. Submucosa
Pronunciation link: <https://www.merriam-webster.com/dictionary/submucosa>
IPA: /ˌsʌb.mjuːˈkoʊ.sə/
Phonetic Spelling: sub-myoo-koh-suh
13. Connective
Pronunciation link: <https://www.merriam-webster.com/dictionary/connective>
IPA: /kəˈnek.tɪv/
Phonetic Spelling: kuh-nek-tiv
14. Coagulate
Pronunciation link: <https://www.merriam-webster.com/dictionary/coagulate>
IPA: /koʊˈæg.jə.leɪt/
Phonetic Spelling: koh-ag-yuh-layt
15. Hemostatic
Pronunciation link: <https://www.merriam-webster.com/dictionary/hemostatic>

IPA: /ˌhiː.mooˈstæt.ɪk/

Phonetic Spelling: hee·moh·stat·ik

16. Intragastric

Pronunciation link: <https://www.merriam-webster.com/dictionary/intragastric>

IPA: /ˌɪn.trəˈgæs.trɪk/

Phonetic Spelling: in·truh·gas·trik

17. Aspirate

Pronunciation link: <https://www.merriam-webster.com/dictionary/aspirate>

IPA: /ˈæs.pəˌreɪt/

Phonetic Spelling: as·puh·rayt

18. Apposed

Pronunciation link: <https://www.merriam-webster.com/dictionary/appose>

IPA: /əˈpoʊz/

Phonetic Spelling: uh·pohzd

19. Statistically

Pronunciation link: <https://www.merriam-webster.com/dictionary/statistically>

IPA: /stəˈtɪs.tɪ.kli/

Phonetic Spelling: stuh·tis·tuh·klee

20. Demographic

Pronunciation link: <https://www.merriam-webster.com/dictionary/demographic>

IPA: /ˌdem.əˈgræf.ɪk/

Phonetic Spelling: dem·uh·graf·ik

21. Perforation

Pronunciation link: <https://www.merriam-webster.com/dictionary/perforation>

IPA: /ˌpɜː.fəˈreɪ.ʃən/

Phonetic Spelling: pur·fuh·ray·shuhn

22. Postoperative

Pronunciation link: <https://www.merriam-webster.com/dictionary/postoperative>

IPA: /ˌpoʊstˈɑː.pə.ə.tɪv/

Phonetic Spelling: pohst·aa·puh·ruh·tiv