

Submission ID #: 72108

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Title: Laparoscopic Transabdominal Preperitoneal Repair of de Garengeot's Hernia with Strangulated Ischemic Appendix

Authors and Affiliations:

**Simone Gianazza¹, Luca Broggi¹, Marco Corbella¹, David Meirruth¹, Arline Vechiu^{1,2},
Andrea Rizzi¹**

¹ Department of General Surgery, Ospedale L Galmarini - ASST Settelaghi

² Department of Medicine and Innovation Technology, University of Insubria

Corresponding Authors:

Simone Gianazza simone.gianazza@gmail.com

Email Addresses for All Authors:

Simone Gianazza simone.gianazza@gmail.com

Luca Broggi luca.broggi@asst-settelaghi.it

Marco Corbella marco.corbella@asst-settelaghi.it

David Meirruth david.meirruth@asst-settelaghi.it

Arline Vechiu arline.vechiu@asst-settelaghi.it

Andrea Rizzi andrea.rizzi@asst-settelaghi.it

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.

Current Protocol Length

Number of Steps: 19

Number of Shots: 26

Interviews

NOTE to VO producer: Please generate VO for interviews

Authors: As your study is a single case report, we have modified the questions to discuss the case study in a better manner.

INTRODUCTION:

REQUIRED: Briefly describe the clinical case presented in this video and the treatment approach used.

- 1.1. This study presents a rare case of De Garengeot hernia with appendiceal ischemia treated via single-stage appendectomy and TAPP hernioplasty.

1.1.1. B. roll: 2.3.1

Explain why this treatment approach was selected for this particular case.

- 1.2. This case shows single-stage feasibility and discusses proper surgical indications.

1.2.1. B. roll: 3.2.1

CONCLUSION:

Summarize the key clinical lessons or takeaways from this case for other clinicians

- 1.3. The clinical takeaway is that correct mesh selection and placement prevents surgical site contamination during emergency hernia repair.

1.3.1. B. roll: 4.2.1

Title Card

According to the institutional policy of “ASST Settelaghi Varese – Ospedale Galmarini di Tradate”, formal ethics committee approval is not required for a single-patient case report

Protocol

NOTE: A case report template was used after approval

Video editor: If the indicated timestamps are a bit longer than the narration during editing, please show the beginning and the end of the procedure for all indicated timestamps. Do not cut in the middle

2. Diagnostic Laparoscopy and Appendectomy

Demonstrator: Luca Broggi

2.1. After the patient was positioned and the trocars were placed, a systematic exploration of the abdominal cavity was performed, with particular attention to the right femoral orifice and the inguinal region. Then, the right femoral hernia sac was identified, and its contents were assessed [1]

2.1.1. LAB MEDIA: Vid 001 00:00-00:25 **TXT: Refer to the text protocol for the patient positioning and trocar placement**

2.2. The appendix and the mesoappendix were evaluated for incarceration, strangulation, ischemic changes or other abnormalities [1].

2.2.1. LAB MEDIA: Vid 001 00:30-00:50

2.3. The mesoappendix was divided using bipolar forceps, with the division proceeding from the appendiceal tip toward the base to maintain hemostasis [1].

2.3.1. LAB MEDIA: Vid 001 03:18-03:24 and 04:21-04:24 and 04:34-04:36

2.4. The appendiceal base was ligated with 2 absorbable ligatures or a pre-tied absorbable loop to prevent stump leakage [1].

2.4.1. LAB MEDIA: Vid 001 06:49-06:54 and 08:33-08:39

2.5. The appendix was divided between the 2 ligatures. Then, the appendix was gently grasped and reduced from the femoral hernia sac into the abdominal cavity [1].

Authors: Should we say "resect" here instead of "reduce" as the structure is pulled out?

No because at first it was reduced, and only after ligation it was resected.

2.5.1. LAB MEDIA: Vid 001 09:35-09:40 and 09:45 – 09:53

- 2.6. Later the appendix was resected, and the specimen was placed in an endoscopic retrieval bag and extracted without contacting the abdominal wall or the trocar sites [1].

- 2.6.1. LAB MEDIA: Vid 002 00:00-00:08 and 00:15-00:20

3. Peritoneal Opening and Preperitoneal Dissection

- 3.1. For the transabdominal preperitoneal repair, the right parietal peritoneum was opened transversely, with the incision beginning lateral to the epigastric vessels [1-TXT].

- 3.1.1. LAB MEDIA: Vid 002 01:48-01:52 and 02:09-02:12

- 3.2. The peritoneal incision was extended medially for approximately 6 centimeters to adequately expose the preperitoneal space [1].

- 3.2.1. LAB MEDIA: Vid 002 02:31-02:35 and 02:45-02:50

- 3.3. Then, the preperitoneal plane was dissected using blunt and sharp techniques with laparoscopic forceps and scissors [1].

- 3.3.1. LAB MEDIA: Vid 002 03:13-03:25

- 3.4. The Cooper's ligament was exposed medially to serve as a landmark for mesh fixation [1].

- 3.4.1. LAB MEDIA: Vid 002 07:45-07:50

- 3.5. The dissection was continued laterally until a space extending at least 5 to 6 centimeters beyond the margins of the femoral defect was created [1].

- 3.5.1. LAB MEDIA: Vid 002 08:15-08:20 and 08:35- 08:40

- 3.6. The femoral hernia sac was reduced away from the round ligament [1].

- 3.6.1. LAB MEDIA: Vid 003 04:13-04:20 and 04:34 – 04:51

- 3.7. Then, the hernia sac was excised completely, to reduce the risk of postoperative seroma formation [1].

- 3.7.1. LAB MEDIA: Vid 004. 00:00 – 00:09; 00:50 – 01:03

4. Mesh Placement and Peritoneal Closure

4.1. A permanent synthetic mesh measuring 7.9 by 13.4 centimeters was selected [1-TXT].

4.1.1. LAB MEDIA: Vid 004 07:22-07:39

4.2. The mesh was inserted into the preperitoneal space and positioned to cover the femoral orifice with an overlap of at least 3 to 4 centimeters beyond the margins of the hernia orifice [1].

4.2.1. LAB MEDIA: Vid 004 07:42-07:51

4.3. The peritoneal flap was closed over the mesh with a continuous absorbable monofilament suture [1].

4.3.1. LAB MEDIA: Vid 004 08:39-08:45 and 10:15 – 10:22

4.4. Complete separation of the prosthesis from the abdominal cavity was ensured, to reduce the risk of bacterial seeding and prevent contact between the mesh and the intra-abdominal viscera [1].

4.4.1. LAB MEDIA: Vid 005 04:30-04:38 and 04:50-04:55

4.5. The operative field was inspected, and hemostasis was confirmed before closure [1-TXT].

4.5.1. LAB MEDIA: Vid 005 07:50 – 07:57 **TXT: See text protocol for hemostasis and closure**

Results

5. Results

- 5.1. The axial non-contrast computed tomography showed a right femoral hernia containing a blind-ending tubular structure with intraluminal air [1]. The hernia orifice measured 8 millimeters, and the sac measured 65 by 14 millimeters [2]. **Authors:** Please confirm the wording in this narration.

It is correct

5.1.1. LAB MEDIA: Figure 1B and Figure 1C. *Video editor: Please emphasize the arrow in each panel*

5.1.2. LAB MEDIA: Figure 1A. *Video editor: Please emphasize the arrow*

- 5.2. Laparoscopy confirmed the vermiform appendix incarcerated within the right femoral hernia sac [1]. The appendix appeared dusky and congested from mesoappendiceal strangulation, without perforation, tissue necrosis, or abscess [2].

5.2.1. LAB MEDIA: Figure 2. *Video editor: Please emphasize the femoral hernia orifice with the appendix entering it without deleting other parts. The image is sufficiently clear, as the hernia and the appendix are the only two structures visible in the image.*

5.2.2. LAB MEDIA: Figure 3. *Video editor: Please emphasize the discolored, congested segment of the appendix running across the center of the image without deleting other parts. The image is sufficiently clear, as the hernia and the appendix are the only two structures visible in the image.*

- 5.3. A single-stage appendectomy with transabdominal preperitoneal hernioplasty was completed in 67 minutes, without significant blood loss [1].

5.3.1. LAB MEDIA: Figure 4.

1. Laparoscopy

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

IPA: /ˌlæpəˈrɑːskəpi/

Phonetic Spelling: lap·uh·RAA·skuh·pee

2. Appendectomy

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

IPA: /ˌæpənˈdektəmi/

Phonetic Spelling: ap·uhn·DEK·tuh·mee

3. Trocars
Pronunciation link: <https://www.merriam-webster.com/dictionary/trocar>
IPA: /'troʊ,kɑːrʒ/
Phonetic Spelling: TROH·karz
4. Femoral
Pronunciation link: <https://www.merriam-webster.com/dictionary/femoral>
IPA: /'femərəl/
Phonetic Spelling: FEM·uh·ruhl
5. Inguinal
Pronunciation link: <https://www.merriam-webster.com/dictionary/inguinal>
IPA: /'ɪŋɡwənəl/
Phonetic Spelling: ING·gwuh·nuhl
6. Mesoappendix
Pronunciation link: No confirmed link found
IPA: /,mezooə'pendɪks/
Phonetic Spelling: mez·oh·uh·PEN·diks
7. Incarceration
Pronunciation link: <https://www.merriam-webster.com/dictionary/incarceration>
IPA: /ɪn,kɑːrsə'reɪʃən/
Phonetic Spelling: in·kar·suh·RAY·shuhn
8. Strangulation
Pronunciation link: <https://www.merriam-webster.com/dictionary/strangulation>
IPA: /,stræŋɡjə'leɪʃən/
Phonetic Spelling: strang·gyuh·LAY·shuhn
9. Ischemic
Pronunciation link: <https://www.merriam-webster.com/dictionary/ischemic>
IPA: /ɪ'skiːmɪk/
Phonetic Spelling: ih·SKEE·mik
10. Bipolar
Pronunciation link: <https://www.merriam-webster.com/dictionary/bipolar>
IPA: /baɪ'poʊlər/
Phonetic Spelling: bye·POH·ler
11. Appendiceal
Pronunciation link: <https://www.merriam-webster.com/dictionary/appendiceal>
IPA: /,æpən'dɪsiəl/
Phonetic Spelling: ap·uhn·DIH·see·uhl
12. Hemostasis
Pronunciation link: <https://www.merriam-webster.com/dictionary/hemostasis>
IPA: /,hiːmoʊ'steɪsɪs/
Phonetic Spelling: hee·moh·STAY·sis
13. Ligated
Pronunciation link: <https://www.merriam-webster.com/dictionary/ligate>
IPA: /'laɪɡetɪd/
Phonetic Spelling: LYE·gay·tid

14. Ligatures
Pronunciation link: <https://www.merriam-webster.com/dictionary/ligature>
IPA: /'lɪɡətʃərz/
Phonetic Spelling: LIG·uh·churz
15. Endoscopic
Pronunciation link: <https://www.merriam-webster.com/dictionary/endoscopic>
IPA: /,ɛndəʊ'skɑ:pɪk/
Phonetic Spelling: en·doh·SKAA·pik
16. Peritoneal
Pronunciation link: <https://www.merriam-webster.com/dictionary/peritoneal>
IPA: /,pɛrətə'ni:əl/
Phonetic Spelling: pair·uh·tuh·NEE·uhl
17. Preperitoneal
Pronunciation link: No confirmed link found
IPA: /,pri:,pɛrətə'ni:əl/
Phonetic Spelling: pree·pair·uh·tuh·NEE·uhl
18. Transabdominal
Pronunciation link: No confirmed link found
IPA: /,trænzæb'dɑ:mənəl/
Phonetic Spelling: tranz·ab·DAA·muh·nuhl
19. Parietal
Pronunciation link: <https://www.merriam-webster.com/dictionary/parietal>
IPA: /pə'raɪətəl/
Phonetic Spelling: puh·RYE·uh·tuhl
20. Peritoneum
Pronunciation link: <https://www.merriam-webster.com/dictionary/peritoneum>
IPA: /,pɛrətə'ni:əm/
Phonetic Spelling: pair·uh·tuh·NEE·uhm
21. Epigastric
Pronunciation link: <https://www.merriam-webster.com/dictionary/epigastric>
IPA: /,ɛpɪ'gæstrɪk/
Phonetic Spelling: ep·ih·GAS·trik
22. Seroma
Pronunciation link: <https://www.merriam-webster.com/dictionary/seroma>
IPA: /sə'roʊmə/
Phonetic Spelling: suh·ROH·muh
23. Monofilament
Pronunciation link: <https://www.merriam-webster.com/dictionary/monofilament>
IPA: /,mɑ:nəʊ'fɪləmənt/
Phonetic Spelling: mon·oh·FIL·uh·muhnt
24. Prosthesis
Pronunciation link: <https://www.merriam-webster.com/dictionary/prosthesis>
IPA: /prɑ:s'θi:sɪs/
Phonetic Spelling: pros·THEE·sis

25. Viscera
Pronunciation link: <https://www.merriam-webster.com/dictionary/viscera>
IPA: /'visərə/
Phonetic Spelling: VIS·uh·ruh
26. Axial
Pronunciation link: <https://www.merriam-webster.com/dictionary/axial>
IPA: /'æksiəl/
Phonetic Spelling: AK·see·uhl
27. Computed Tomography
Pronunciation link: <https://www.merriam-webster.com/dictionary/computed%20tomography>
IPA: /kəm'pjʊ:tɪd tə'mɑ:grəfi/
Phonetic Spelling: kuhm·PYOO·tid tuh·MAA·gruh·fee
28. Intraluminal
Pronunciation link: No confirmed link found
IPA: /,ɪntrə'lu:mənəl/
Phonetic Spelling: in·truh·LOO·muh·nuhl
29. Vermiform
Pronunciation link: <https://www.merriam-webster.com/dictionary/vermiform>
IPA: /'vɜ:mə,fɔ:rm/
Phonetic Spelling: VER·muh·form
30. Mesoappendiceal
Pronunciation link: No confirmed link found
IPA: /,mezəʊə,pən'disiəl/
Phonetic Spelling: mez·oh·uh·pen·DIH·see·uhl
31. Perforation
Pronunciation link: <https://www.merriam-webster.com/dictionary/perforation>
IPA: /,pɜ:fə'reɪʃən/
Phonetic Spelling: per·fuh·RAY·shuhn
32. Necrosis
Pronunciation link: <https://www.merriam-webster.com/dictionary/necrosis>
IPA: /nə'kroʊsɪs/, /nɛ'kroʊsɪs/
Phonetic Spelling: nuh·KROH·sis / neh·KROH·sis
33. Hernioplasty
Pronunciation link: <https://www.merriam-webster.com/dictionary/hernioplasty>
IPA: /'hɜ:niə,plæsti/
Phonetic Spelling: HER·nee·uh·plas·tee