

Submission ID #: 68459

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Title: Single-Port Robotic-Assisted Transaxillary Breast-Conserving Surgery: A Prospective, Single-Arm, Non-Randomized Phase IIa Clinical Trial

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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. Microscopy: Does your protocol require the use of a dissecting or stereomicroscope for performing a complex dissection, microinjection technique, or something similar? **No**

3. Software: Does the part of your protocol being filmed include step-by-step descriptions of software usage? **No**

4. Proposed filming date: To help JoVE process and publish your video in a timely manner, please indicate the proposed date that your group will film interviews here: **2025/09**

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

Current Protocol Length

Number of Steps: 07

Number of Shots: 08

Introduction

NOTE: Interview files and the take name are added for each statement

- 1.1. **YanXu:** The focus of our study is the application of single-port robotic technology in breast cancer surgery. Its aim is to address the effectiveness and safety of the novel single-port robotic technology in breast-conserving surgery for breast cancer.

1.1.1. INTERVIEW: Named talent says the statement above in an interview-style shot, looking slightly off-camera. *Suggested B-roll: 2.3.1*

1-68459 1.1.1: audio document 01 : 50-02 : 11

2-68459 1.1.1: audio document 04: 05-05: 00

3-68459 1.1.1: audio document 09: 26-09: 43

What are the current experimental challenges?

- 1.2. **Yan Xu:** he challenge is to improve the recognition rate of tumor boundaries, reduce the positive rate of surgical margins, and lower the incidence of reoperation.

1.2.1. INTERVIEW: Named talent says the statement above in an interview-style shot, looking slightly off-camera. *Suggested B-roll: 2.5.1*

1-68459 1.2.1: audio document 02 : 29-02 : 44

2-68459 1.2.1: audio document 05: 04-05: 20

3-68459 1.2.1: audio document 09: 46-10: 00

What significant findings have you established in your field?

- 1.3. **Yan Xu:** We performed the first successful application of single-port robotics in breast-conserving surgery for breast cancer in China.

1.3.1. INTERVIEW: Named talent says the statement above in an interview-style shot, looking slightly off-camera. *Suggested B-roll: 3.1.1*

1-68459 1.3.1: audio document 02 : 51-03 : 01

2-68459 1.3.1: audio document 05: 23-05: 36

3-68459 1.3.1: audio document 10: 03-10: 15

Ethics Title Card

This research has been approved by the Ethics Committee at the Army Medical Center
(Daping Hospital)

Protocol

2. Transaxillary Breast-Conserving Surgery with Single-Port Robotic-Assistance

Demonstrator: Yan Xu

2.1. To begin, use the single-port robotic camera to establish visualization of the surgical area [1].

2.1.1. LAB MEDIA: 68459-01 - 10:28-10:40;

2.2. Guide the instruments along the lateral border of the pectoralis major muscle to access the retro-pectoral tissue [1].

2.2.1. LAB MEDIA: 68459-01 - 05:00-05:10 and 07:10-07:15

2.3. Using gentle palpation, confirm the boundaries of the dissection zone [1]. Then, extend the retromammary dissection by 1 to 2 centimeters beyond the target area and mark the boundaries using ten syringe needle markers [2].

2.3.1. LAB MEDIA: 68459-01 - 12:55-13:05

2.3.2. LAB MEDIA: 68459-01 - 13:05-13:20

2.4. Next, deploy the single-port robotic monopolar scissors and bipolar forceps [1].

2.4.1. LAB MEDIA: 68459-01 - 17:31-17:45

2.5. Enter the resection zone through the superficial fascial layer and perform a vertical lateral resection from the superior to the inferior direction [1].

2.5.1. LAB MEDIA: 68459-01 - 15:35-16:45

2.6. Now, continue resecting bilaterally to achieve complete cylindrical gland removal [1].

2.6.1. LAB MEDIA: 68459-02 - 15:10-15:20

2.7. Finally, deactivate and withdraw all robotic components [1].

2.7.1. LAB MEDIA: 68459-02 - 35:35-35:45

Results

3. Results

- 3.1. The mean operative time across six patients was 232 minutes, ranging from 180 minutes to 295 minutes [1], and the mean intraoperative blood loss was 15 milliliters [2].
 - 3.1.1. LAB MEDIA: Table 1. *Video editor: Highlight the column showing “operative time”.*
 - 3.1.2. LAB MEDIA: Table 1. *Video editor: Highlight the column for “blood loss”.*
- 3.2. The average postoperative drainage volume was 250 milliliters, with values ranging from 100 milliliters to 470 milliliters [1].
 - 3.2.1. LAB MEDIA: Table 1. *Video editor: Highlight the column “drainage volume”.*
- 3.3. The mean hospital stay was 10 days, ranging from 8 days to 16 days, with the longest stay linked to postoperative breast hematoma [1].
 - 3.3.1. LAB MEDIA: Table 1. *Video editor: Highlight the column for “time of hospital stay”.*
- 3.4. Postoperative cosmetic outcomes demonstrated progressive improvement, with improved BREAST-Q (*breast-Q*) scores [1].
 - 3.4.1. LAB MEDIA: Figure 6. *Video editor: Highlight second column of images “B,D,F,H,J,L”.*
- 3.5. Four patients who underwent radiation therapy showed an adverse effect with a mean score of 9 out of 18, where lower values represent worse outcomes [1].
 - 3.5.1. LAB MEDIA: Table 1. *Video editor: Highlight the row for radiation adverse effects, focusing on the mean score.*
- 3.6. Early postoperative pain management achieved target Visual Analogue Scale scores, starting at 4 on day 1 [1] and remaining less than 2 in later stages [2].
 - 3.6.1. LAB MEDIA: Table 1. *Video editor: Highlight the values in the column “VAS” for the row’s labeled “1-day”.*
 - 3.6.2. LAB MEDIA: Table 1. *Video editor: Highlight the values in the column “VAS” for the row’s labeled “3-day and 7-day”*

1. **single-port**

IPA: /'sɪŋ.gəl pɔrt/

Phonetic: *SING-guhl port*

2. **robotic**

IPA: /rəʊ'bɑː.tɪk/

Phonetic: *roh-BAH-tik*

3. **resection**

Pronunciation link: <https://dictionary.cambridge.org/dictionary/english/resection>
(dictionary.cambridge.org)

IPA: /rɪ'sɛk.ʃən/ (dictionary.cambridge.org)

Phonetic: *ri-SEK-shun*

4. **pectoralis major**

Pronunciation link: <https://dictionary.cambridge.org/pronunciation/english/pectoralis>
(dictionary.cambridge.org) ([Cambridge Dictionary](#))

IPA: /ˌpɛk.tə'ræ.lɪs 'meɪ.dʒər/ ([Cambridge & Collins]) ([Cambridge Dictionary](#))

Phonetic: *pek-TOR-uh-liss MAY-jər*

5. **retromammary**

Pronunciation link: <https://www.merriam-webster.com/medical/retromammary>
([Merriam-Webster](#))

IPA: /ˌrɛt-rəʊ'mæm-əˌri/ ([Merriam-Webster](#))

Phonetic: *ret-roh-MAM-uh-ree*

6. **superficial**

IPA: /ˌsuː.pər'fiʃ.əl/

Phonetic: *soo-per-FISH-uhl*

7. **fascial** (as in “fascial layer”)

IPA: /'fæʃ.i.əl/

Phonetic: *FASH-ee-uhl*

8. **bilaterally**

IPA: /baɪˈlæ.tər.ə.li/

Phonetic: *by-LAT-uh-ruh-lee*

9. **cyindrical** (in context “cylindrical gland removal”)

IPA: /səˈlɪn.dri.kəl/

Phonetic: *suh-LIN-drick-uhl*

10. **operative**

Pronunciation link: <https://dictionary.cambridge.org/dictionary/english/operative>
(dictionary.cambridge.org)

IPA: /ˈɑː.pə.rə.tɪv/ or /ˈɒp.ə.rə.tɪv/ depending on accent; in US: /ˈɑː.pə.rə.tɪv/ ([Collins Dictionary](#))

Phonetic: *OP-uh-ruhtiv*