

SAFETY AND FEASIBILITY OF LIVER RETRACTION WITH THE LEVITA EXTENDED MAGNETIC GRASPER DEVICE

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INTRODUCTION

- ➔ Laparoscopy requires multiple abdominal incisions, increasing risk of incision-related complications.
- ➔ Magnetic Robotic-Assisted Surgery (MARS) enables reduced-port procedures, minimizing incisions, pain, and complications while improving cosmetic outcomes.

OBJECTIVE

To evaluate the safety and effectiveness of the Extended Magnetic Grasper Device in patients undergoing bariatric and/or hiatal hernia procedures as a liver retractor.

METHODS

- ✓ A prospective, multicenter, single-arm, open-label study was conducted.
- ✓ The Levita Magnetic Surgical System (Figure 1) with an extended magnetic grasper (12.5 mm) (Figure 2) was used to mobilize the liver, diaphragmatic crus, and surrounding tissue.
- ✓ Endpoints were safety and feasibility.

RESULTS

Thirty surgeries were performed (23 bariatric, 3 hiatal hernia repairs, 4 combined procedures) in a predominantly female cohort (73%), with a mean age of 43.6 ± 12.4 years and a mean BMI of 40.9 ± 5.9 kg/m².

Variable	Result (n=30)
Mean surgery duration (min)	99
Liver retraction success (%)	100
Target easily grasped on the first attempt (%)	87
Device malfunctioning (n)	0
Conversions (n)	0
30-day serious or severe adverse events (n)	0

Table 1.
Operative and post-operative results

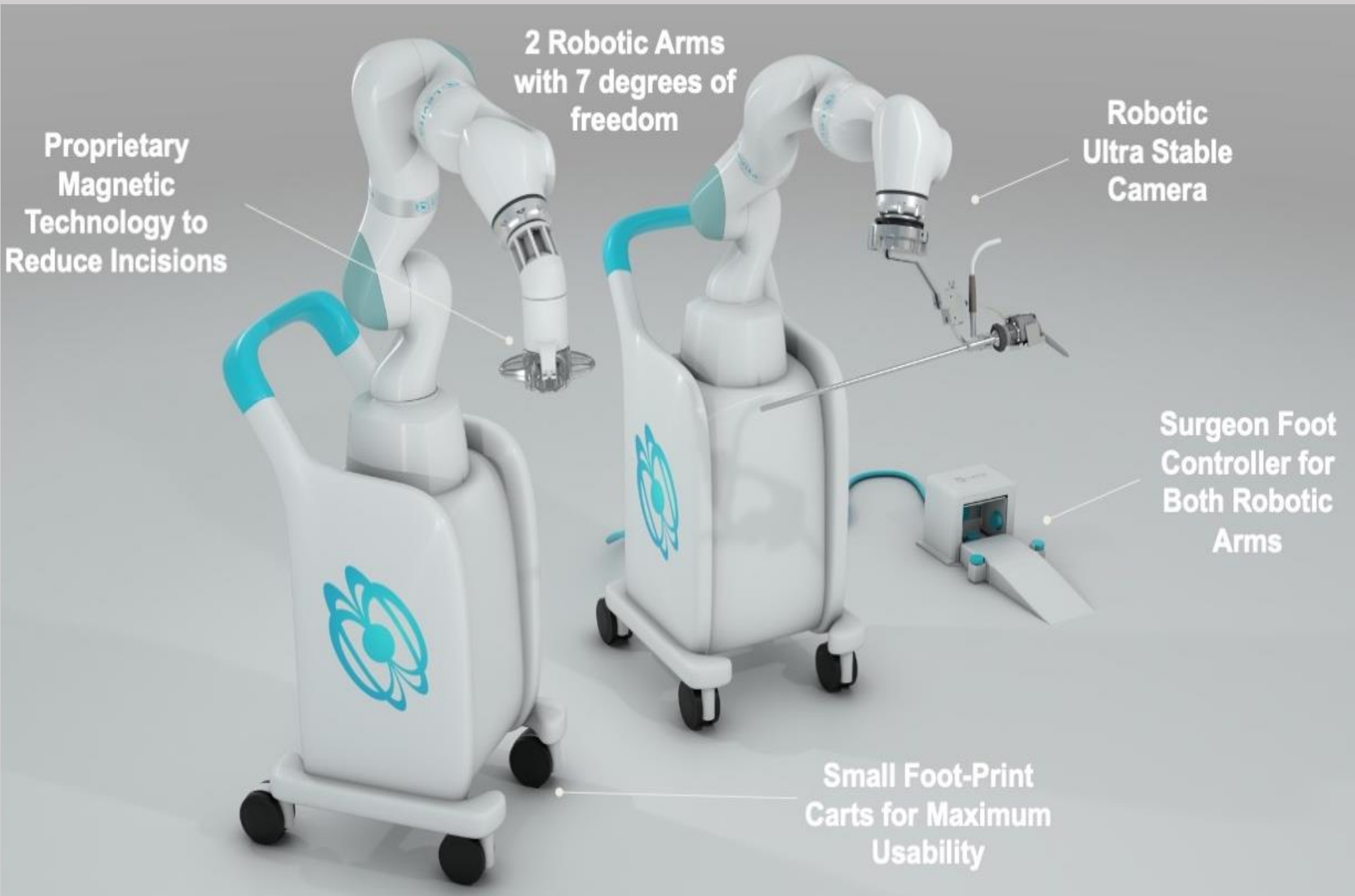


Figure 1. MARS system



Figure 2. Extended grasper (12.5 mm) and standard grasper (6.5 mm)

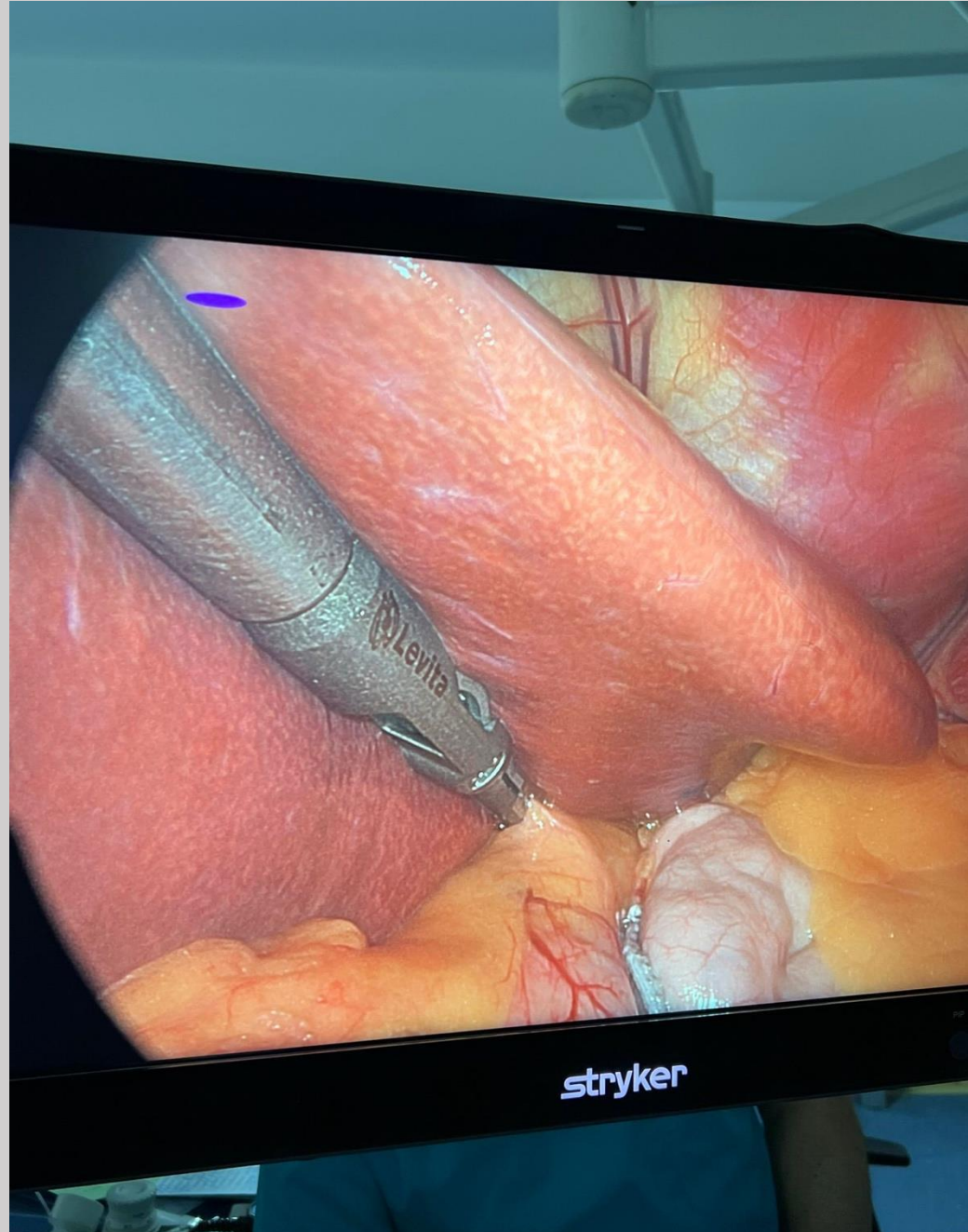


Figure 3.
Tissue retraction

CONCLUSION

- Study shows that the Extended Magnetic Grasper met all predefined safety and feasibility endpoints with no device malfunction and serious adverse events.
- The Extended Grasper enabled adequate mobilization of the liver, diaphragmatic crus, and surrounding tissue in all 30 procedures.