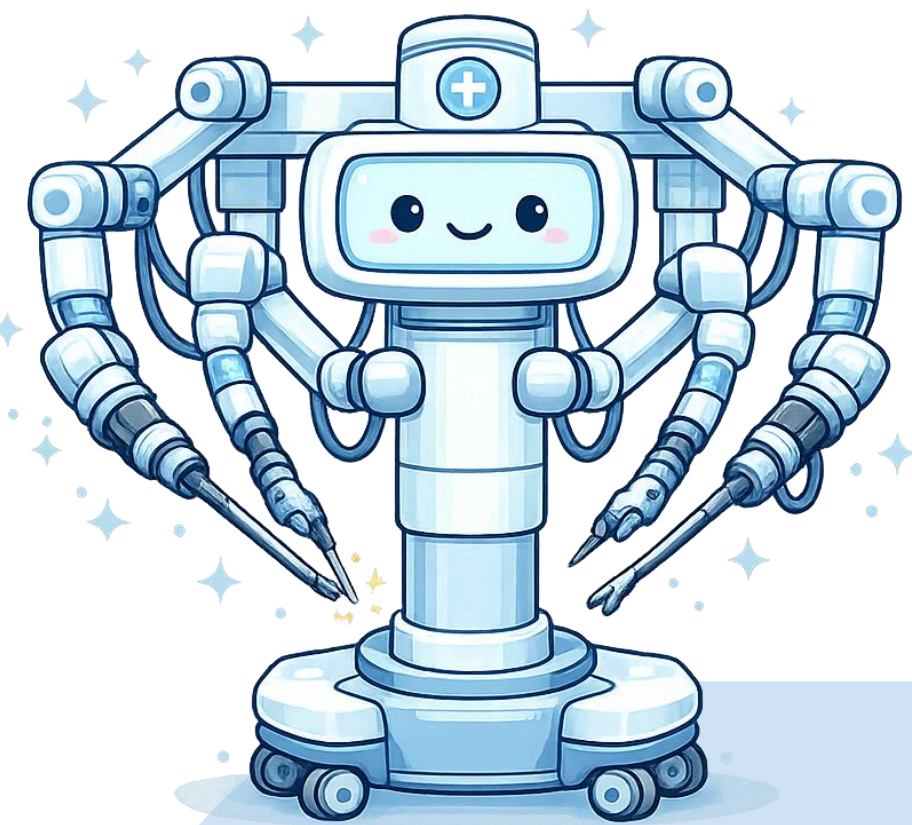


New Frontiers in Robotic Ventral Hernia Repair: a Qualitative Systematic Review of Robotic Approaches other than Da Vinci



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CONTEXT

Robotic-assisted ventral hernia repair has expanded over the last decade, largely driven by the widespread adoption of the da Vinci platform. Although this system offers advantages in visualization, precision, and dexterity, concerns regarding cost, accessibility, and platform design have stimulated the development of alternative robotic systems. However, evidence evaluating the clinical implementation and technological impact of these emerging platforms in abdominal wall surgery remains limited.

AIM

We conducted a systematic review to assess new robotic platforms used for ventral hernia repair.

METHODOLOGY

Systematic Review according to the PRISMA 2020 guidelines
Systematic Search:
- PubMed/MEDLINE, Embase, LILACS, Cochrane Library

RESULTS



- Hugo RAS (20 patients)
- CMR Versius (13 ptients)
- SSI Mantra (10 patients)

	Number of Patients	Robotic Platform	Conversion	Device Error	Blood Loss	Postoperative Complications	Length of Stay (LOS)	Recurrence	Follow-up
Caruso, 2025	1	Hugo	0	0	NA	0	4	0	15 days
Ferri, 2025	1	Hugo	0	0	NA	0	7	0	15 days
Formisano, 2024	1	Hugo	0	0	NA	0	2	0	NA
Jebakumar, 2024	7	Hugo	0	NA	NA	0	3	0	30 days
Quezada, 2024	10	Hugo	0	NA	NA	0	3	0	30 days
Ceretti, 2024	4	Versius	0	0	0-30 mL	1 patient developed seroma	2.75	0	NA
Dixon, 2022	9	Versius	1 to laparoscopy	0	NA	1 rectus sheath hematoma managed conservatively 1 urinary retention	0	0	30 days
Mehrotra, 2024	10	Mantra	0	NA	NA	0	1.1	0	7 days

CONCLUSION

New robotic platforms for ventral hernia repair demonstrate early clinical feasibility with favorable short-term outcomes. Current evidence remains limited, and further prospective comparative studies are required to clarify their role in robotic abdominal wall surgery.