The Magellan Robotic System Is Valuable For FEVAR, Carotid And Embolization Procedures

Celia Riga BSc, MBBS, MD, FRCS
Consultant Vascular Surgeon & Clinical Senior Lecturer

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Hamlyn Centre for Robotic Surgery, Institute of Global Health Innovation
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Health Technology Assessment

- Safety
- Feasibility
- Efficiency
- Cost

MILESTONES - The St Mary’s Experience

CLINICAL EXPERIENCE - St Mary’s
111 patients, 145 targets

Demographics

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Age</td>
<td>67 (28-90)</td>
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<tr>
<td>M:F</td>
<td>60:40</td>
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<tr>
<td>Emerg/Urgent</td>
<td>23%</td>
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<tr>
<td>Hypertension</td>
<td>82%</td>
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<tr>
<td>Diabetes mellitus</td>
<td>18%</td>
</tr>
<tr>
<td>Smoking</td>
<td>37%</td>
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<tr>
<td>Dyslipidaemia</td>
<td>25%</td>
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<tr>
<td>IHD</td>
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CLINICAL ENDPOINTS

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<tr>
<td>Technical success</td>
<td>97% (140/145)</td>
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<td>Successful agent/device delivery</td>
<td>100% (72/72)</td>
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<td>Median robotic set-up time</td>
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30d mortality | 1.8% (2/111) [MI, Sepsis]
Neurology (Stroke/Paraplegia) | 0
Access/device/path-related | 1.8% (2/111) [sheath/closure device]

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Disclosures

- Consultancy: Hansen Medical
- Grants, research, travel support: Medtronic, Gore, Hansen, Bolton Medical
CLINICAL EXPERIENCE - St Mary's
111 patients, 145 targets

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CLINICAL CASES – FEVAR

Robot-assisted fenestrated endovascular aneurysm repair (FEVAR) using the Magellan system.

Riga CV, Bicknell CD, Rolls A, Cheutin NJ, Hamady M.


Feasibility and safety of renal and visceral target vessel cannulation using robotically steerable catheters during complex endovascular aortic procedures.

Cochennec F, Kobeiter H, Gohel M, Marzelle J, Desgranges P, Alkiri E, Becquemin JP.


CLINICAL CASES – FEVAR

24 FEVAR renal cannulations
- Comparable
- 12 robotic, 12 manual
- Experienced operators
- Sheath Placement

CLINICAL CASES – FEVAR

Conventional versus Robotic Cannulation in FEVAR

ER = 1.56 [95% CI (1.2-2.1)]

Efficiency ratio: 1.56

Occupational Exposure By Stage
**CLINICAL CASES – CAS**

- Minimal arch manipulation
- Low CF
- No need for ECA wire
- Stability
- High risk cases

No strokes


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**CLINICAL CASES – ARCH TCD Hits**

![Image](https://via.placeholder.com/150)

Perera A, Riga C, Monzon L, Gibbs R, Bicknell C, Hamady M.

\( p = 0.018 \)

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**CLINICAL CASES – Embolization**

- EVAR & IIA EMBOLIZATION
- IIA EMBOLIZATION
- IIA Aneurysm

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**MAGELLAN SYSTEM Conclusions**

- Safety & Feasibility
- Early clinical effectiveness
- Valuable for complex tasks: FEVAR, CAS, embolizations
- Radiation exposure minimal
- Cost
ENDOVASCULAR ROBOTICS Impact

- Image Integration
- Delivery of Therapy

VEITH SYMPOSIUM
Connecting the Vascular Community