

Coil embolization of internal iliac arteries before EVAR: experience with fusion imaging

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Disclosure

Speaker name: Hayato Morimura

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I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s) This research was funded by Siemens.

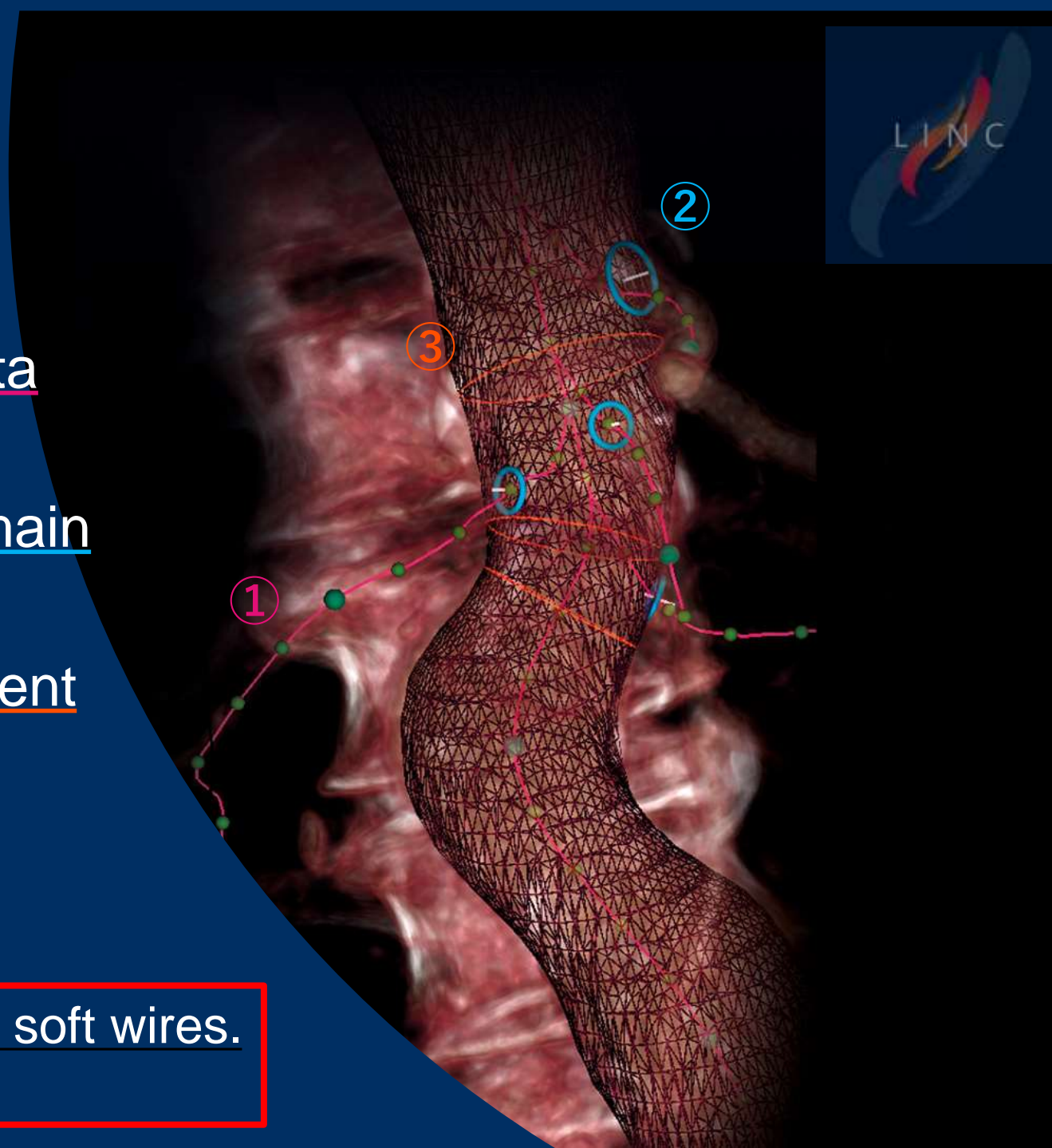
- I do not have any potential conflict of interest

Characteristics of EVAR guidance

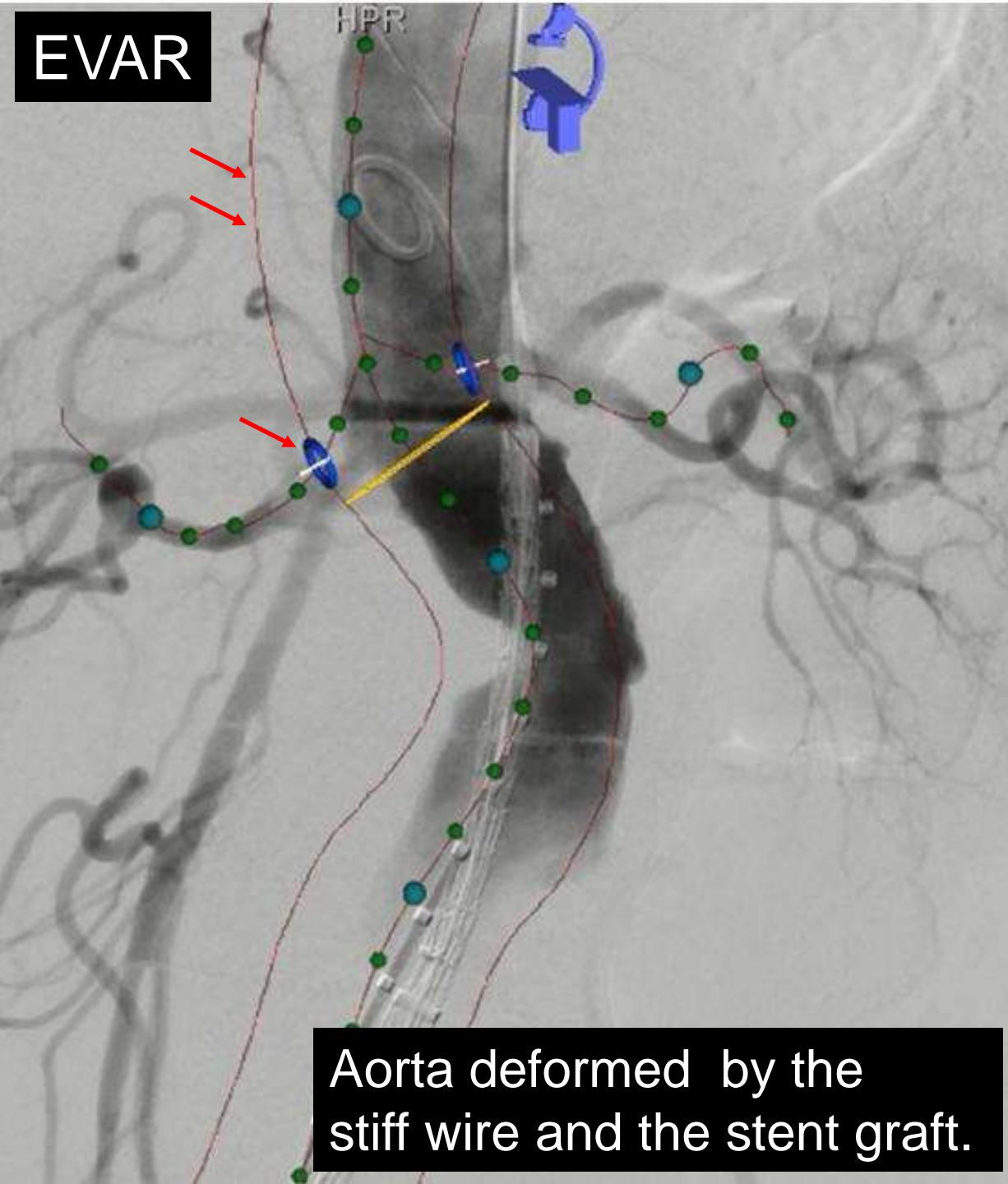
–how the idea came up



- ① Detection of the vessel wall of aorta and branched vessels.
 - ② Visualization of ostia rings for all main branched vessels.
 - ③ Suggestion of landing zones for stent positioning.
- Stiff wires deform the aorta which disable the guidance.
- True benefit gained in procedures with soft wires.
(e.g. IIA embolization)

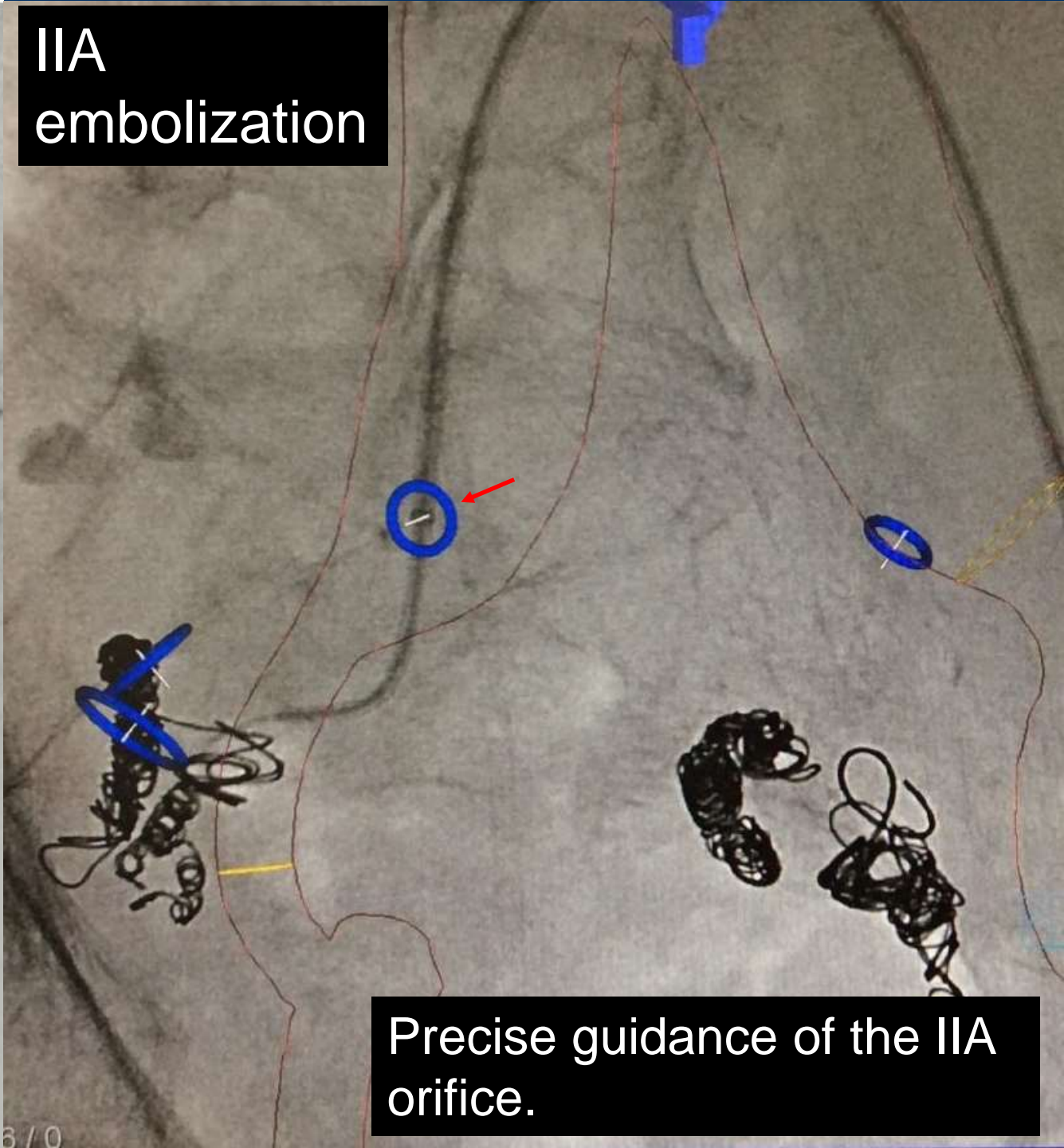


EVAR



Aorta deformed by the stiff wire and the stent graft.

IIA embolization



Precise guidance of the IIA orifice.

Study Protocol



- **Patients**

AAA, CIAA and IIAA patients undergoing EVAR with IIA embolization

- **Intervention**

IIA embolization using EVAR Guidance (n=30)

- **Comparison**

IIA embolization without the use of EVAR Guidance (n=30)

- **Outcome***

Contrast medium dose, Fluoroscopy time,
Radiation exposure, Procedure time

*From FA puncture to first coil or plug deployment.

Results

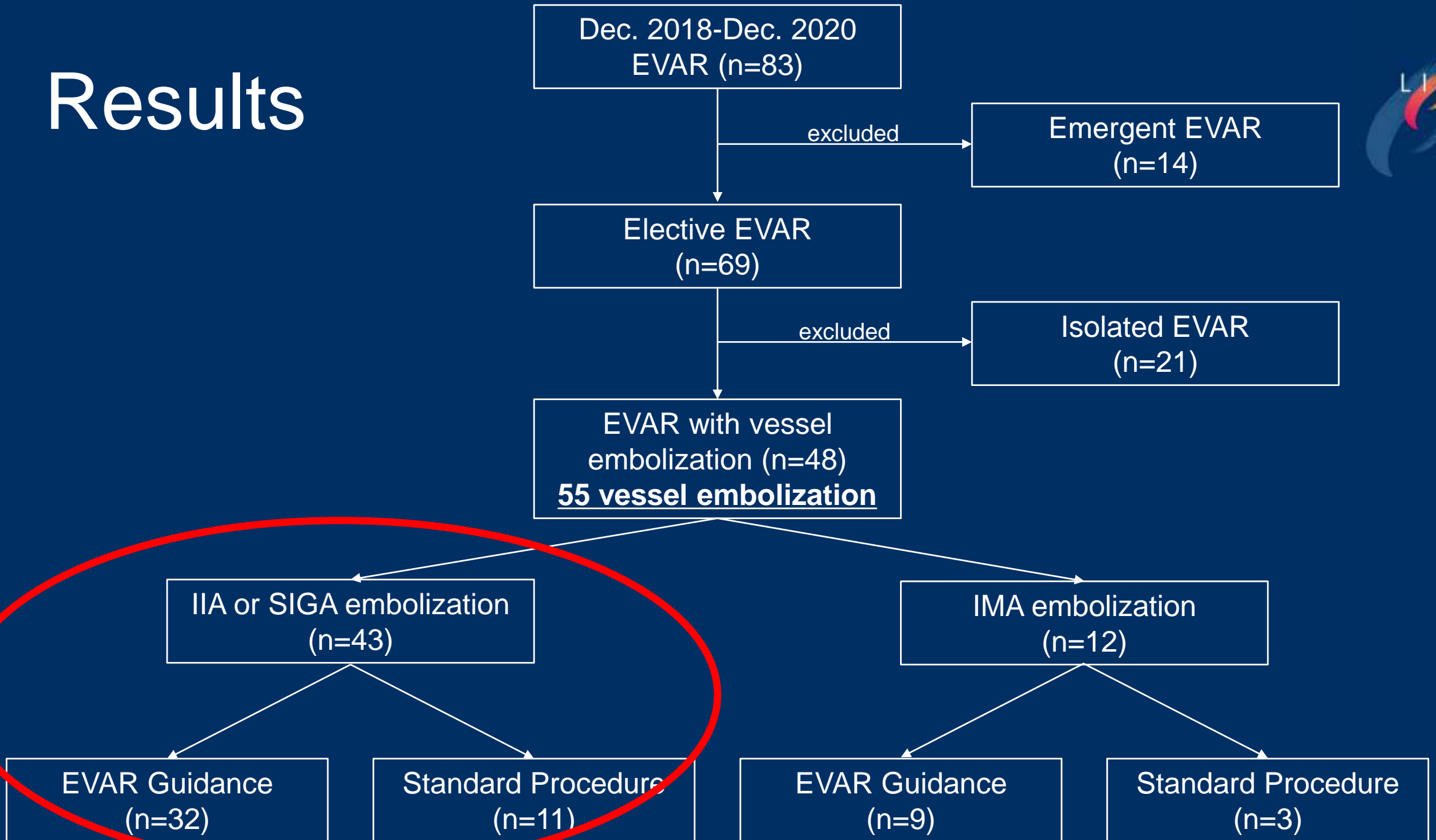


Table 1: Patient characteristics of elective EVAR treatment

	All	Standard Procedure	EVAR Guidance	P value
N	43	11	32	
Age	79.9 ± 6.3	79.5 ± 4.9	80.1 ± 6.8	0.78
Male (%)	74.4	81.8	71.9	0.51
Body Mass Index (kg/m ²)	22 ± 3.9	22.2 ± 2.8	21.9 ± 4.2	0.87
Hemodialysis (%)	0	0	0	-
eGFR (mL/min/1.73m ²)	57.8 ± 13.4	52.6 ± 21.2	59.6 ± 9.2	0.13
Coil (%)	58.1	72.7	53.1	0.26

Table 2: Median and Inter quartile range of each outcome

	AII	Standard Procedure	EVAR Guidance	P value
N	43	11	32	
Contrast medium (mL)	14 (10-25)	23 (13-33)	14 (6-20)	0.099
Fluoroscopy time (min.)	12.9 (6.7-24.7)	22.0 (10.4-35.1)	10.3 (6.1-20.6)	0.058
Radiation exposure (mGy)	189 (89-330)	310 (89-491)	145.5 (98-321)	0.48
Procedure time (min.)	22 (14-37)	30 (20-55)	18 (11-35)	0.049



Limitation

- Multiple surgeons
 - All procedures were done by experienced cardiac surgeons.
- Not randomized
 - EVAR guidance group was first done and the control group after.
 - Results are not influenced by learning curves.
- Small number of the control group
 - We are going to enroll more cases and it needs further investigation.

Conclusions



- EVAR guidance may be most useful in procedures without stiff wires.
- Procedure time of IIA embolization was reduced with the use of EVAR guidance.
- There are some limitations, and we need further investigation.