

Hyperbaric oxygen therapy outcomes in post-irradiated patient undergoing microvascular breast reconstruction: A preliminary retrospective comparative study.

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Background

Radiotherapy : challenging in free autologous breast reconstruction.

HBOT treats radiation-related complications :

- 100% FiO2 at 2.5 ATM for 95min, consecutive sessions.
- Promotes neo-angiogenesis
- Oncologically safe¹

Method

Population : Female, consecutive secondary microsurgical autologous breast reconstruction after radiation

Intervention : HBOT

Comparator : No HBOT

Outcomes : Post-operative complications, microsurgical time, operative time

Study design : Retrospective single surgeon Oct 2020- Jan 2024.

IRB approval CCER 2024-00007

Results

Population

- Reason for autologous reconstruction : 9 capsulitis, 1 patient wish, 2 no initial reconstruction, 1 implant infection, 1 implant exposure.
- 11 unilateral DIEP, 1 unilateral f-TRAM, 2 bilateral DIEP
- 7 patients with HBOT, 7 patients without HBOT

HBOT regimen

- 1) 11 pre-operative sessions
- 2) 11 pre-operative, 5 post-operative sessions
- 3) 15 pre-operative, 52 post-operative sessions
- 4) 16 pre-operative sessions
- 5) 29 after initial mastectomy, 9 post-operative sessions
- 6) 35 after initial mastectomy, 18 pre-operative sessions
- 7) 8 pre-operative, 30 post-operative sessions

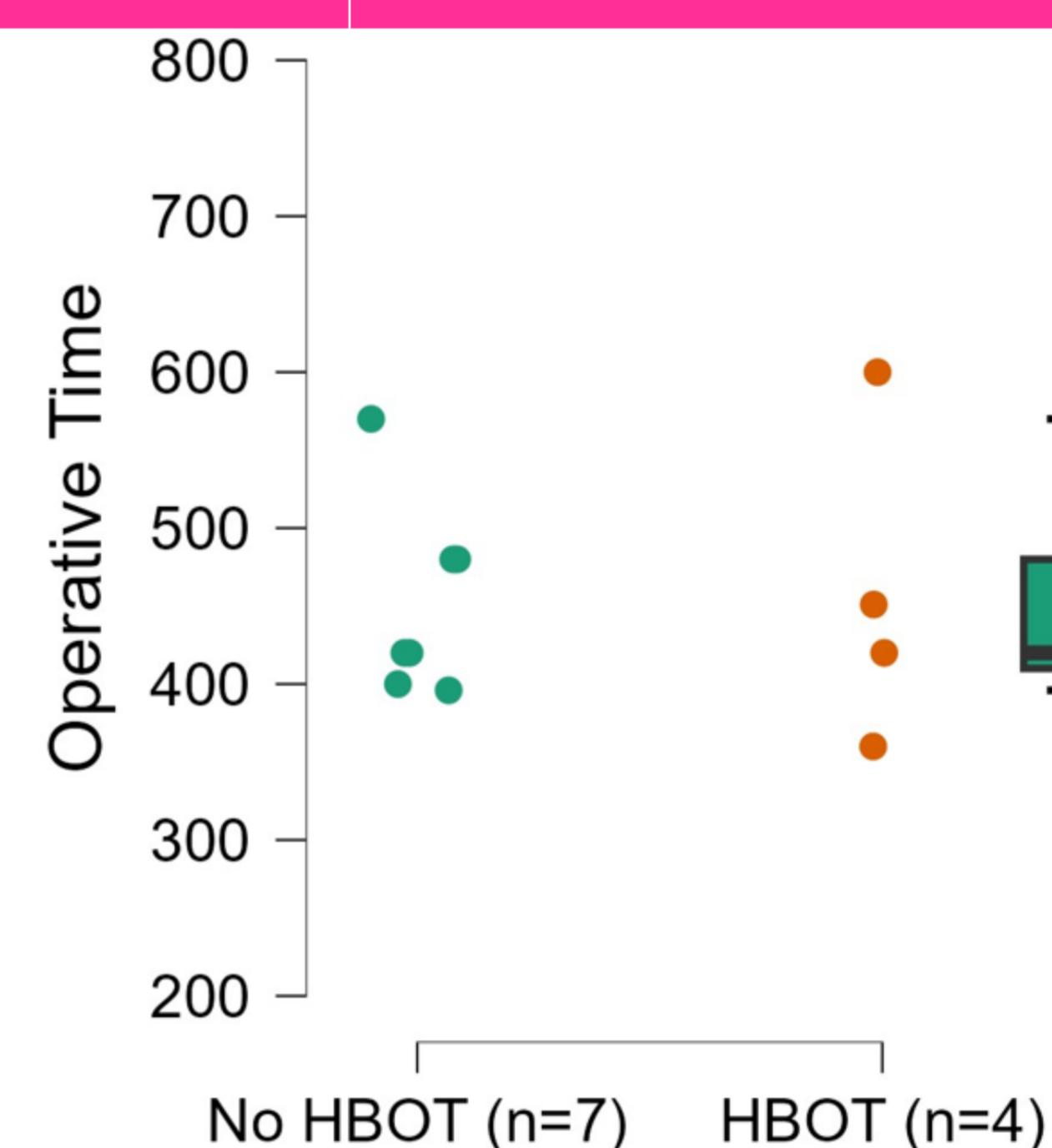
Conclusion

- Insights of the prophylactic HBOT use in autologous breast reconstruction
- Limitations : retrospective study (intervention bias), small study group, non standardized HBOT regimen.
- No conclusion can be drawn, prospective RCT mandated

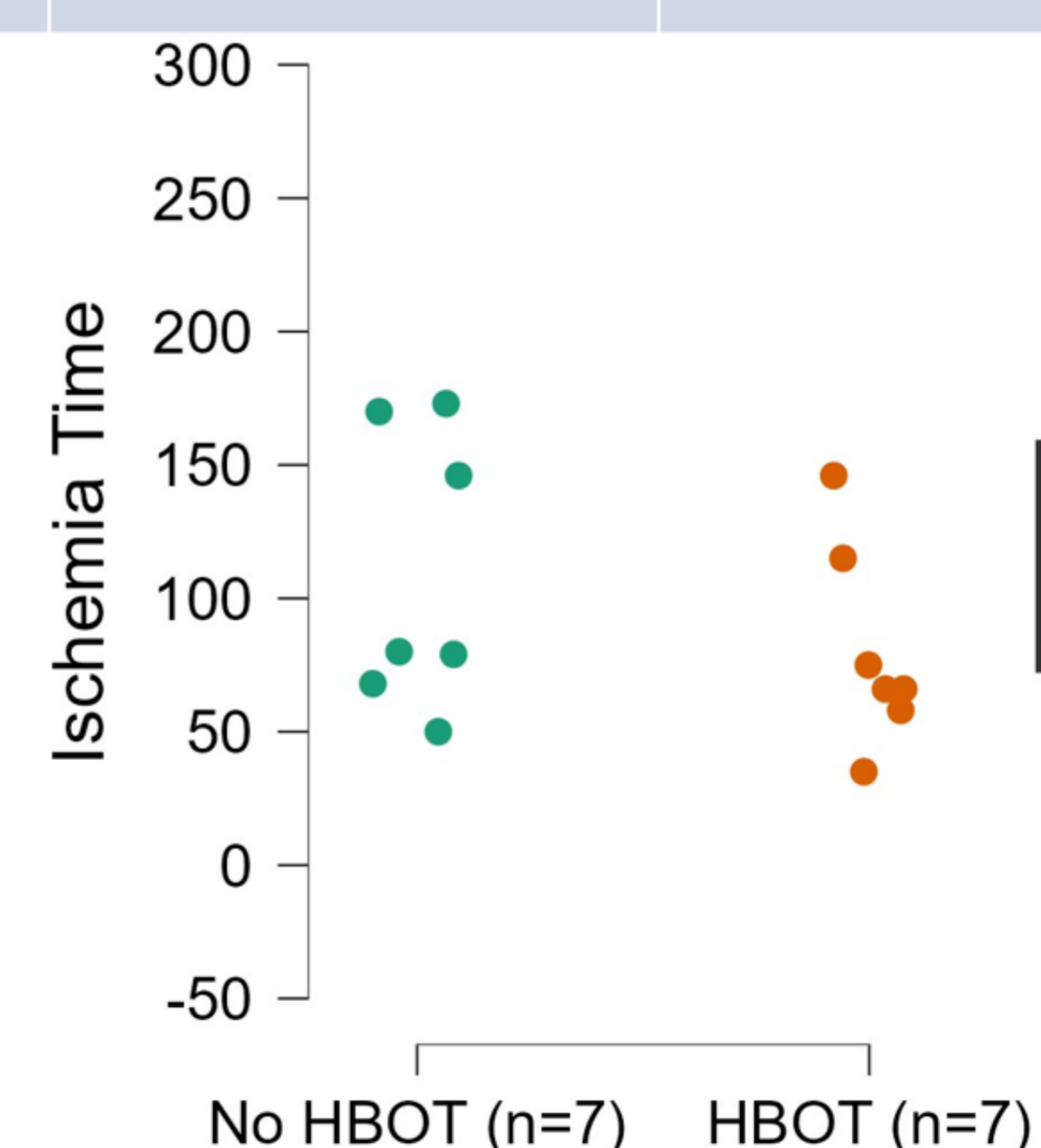


Post-operative complications

Maximal Clavien-Dindo Grade	HBOT (n=7 patients)	No HBOT (n=7 patients)
No complication	1	3
I	3	0
II	0	1
IIIa	1	1
IIIb	2	2
IV	0	0



	HBOT (n=4 patients)	No HBOT (n=7 patients)	P-value
Mean operative time for unilateral cases	457.8 min (SD 102.1)	452.3 min (SD 62.4)	0.913



	HBOT (n=7 breast)	No HBOT (n=7 breast)	P-value
Mean ischemia time per breast	80.1 min (SD 37.7)	109.4 min (SD 51.8)	0.249