



Comparing IVF treatment protocols for women with endometriosis and/or adenomyosis

Introduction

Several studies have looked at comparing different IVF/ICSI treatment protocols for women with endometriosis or adenomyosis, but there is still no clear answer as to which is most effective^{1,2}. This service improvement study in a single centre compared the outcomes of women with endometriosis/adenomyosis following different treatment (Tx) regimes, looking at oocyte collection, blastocyst development and clinical pregnancy rates.

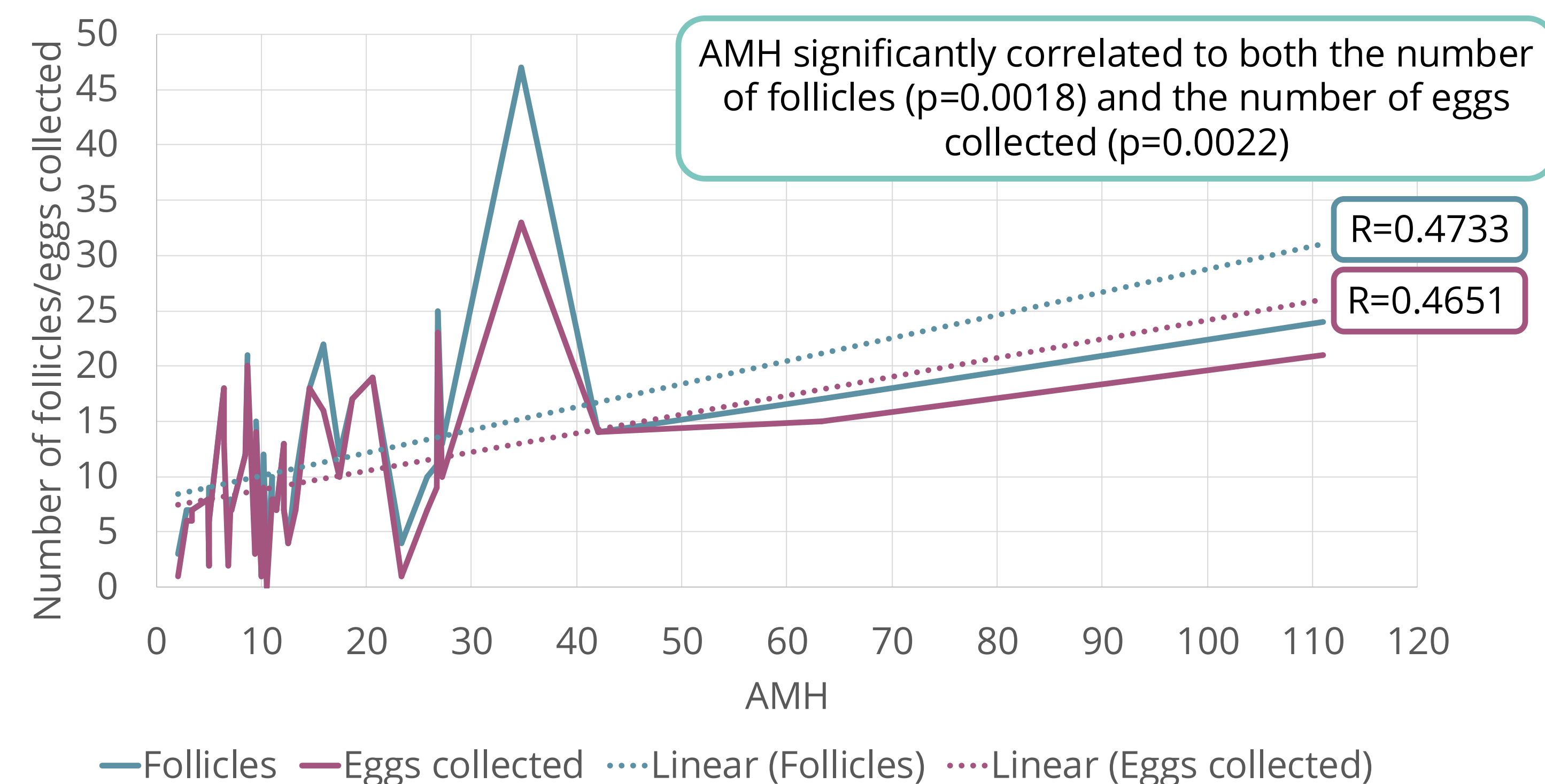
Methods

- June 2021- February 2024: **86 treatment cycles** started in **48 women** with endometriosis and/or adenomyosis
- 63 of these included an embryo transfer (ET)
- **Long protocol gonadotropin-releasing hormone (GnRH) agonist** or **GnRH antagonist** protocol for ovarian stimulation
- Blastocysts were transferred **fresh** or **frozen** for future ET
- Frozen embryo transfer (FET) cycles were either on **medicated** or **'natural'** (without medication) treatment protocols
- Data collected from lab & clinical notes
- Appropriate statistical tests used to analyse outcomes, using GraphPad³
- $\alpha = 0.05$ ($p < 0.05$ considered significant)

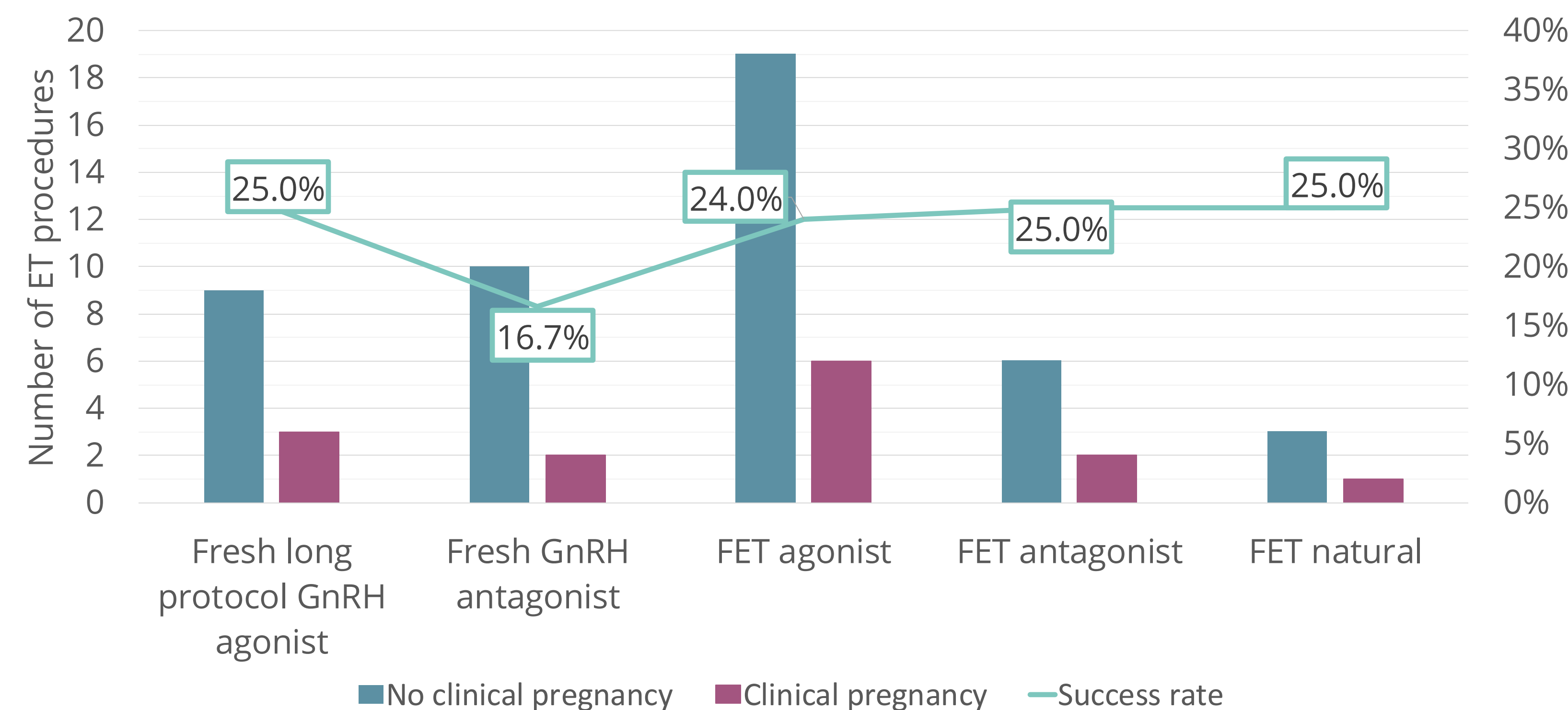
References

1. Chen Q, Du S, Lin Y, Zheng B. Controlled ovarian stimulation for endometriosis patients with ultra-long GnRH-agonist or GnRH-antagonist protocols: A retrospective study by propensity score matching. J Obstet Gynaecol Res [Internet]. 2023;49(5):1366–74. Available from: <http://dx.doi.org/10.1111/jog.15570>
2. Goyri E, Kohls G, Garcia-Velasco J. IVF stimulation protocols and outcomes in women with endometriosis. Best Pract Res Clin Obstet Gynaecol [Internet]. 2024;92(102429):102429. Available from: <http://dx.doi.org/10.1016/j.bpobgyn.2023.102429>
3. GraphPad software [Internet]. Graphpad.com. Available from: <https://www.graphpad.com/quickcalcs/>

Correlation between AMH and number of follicles or number of eggs collected

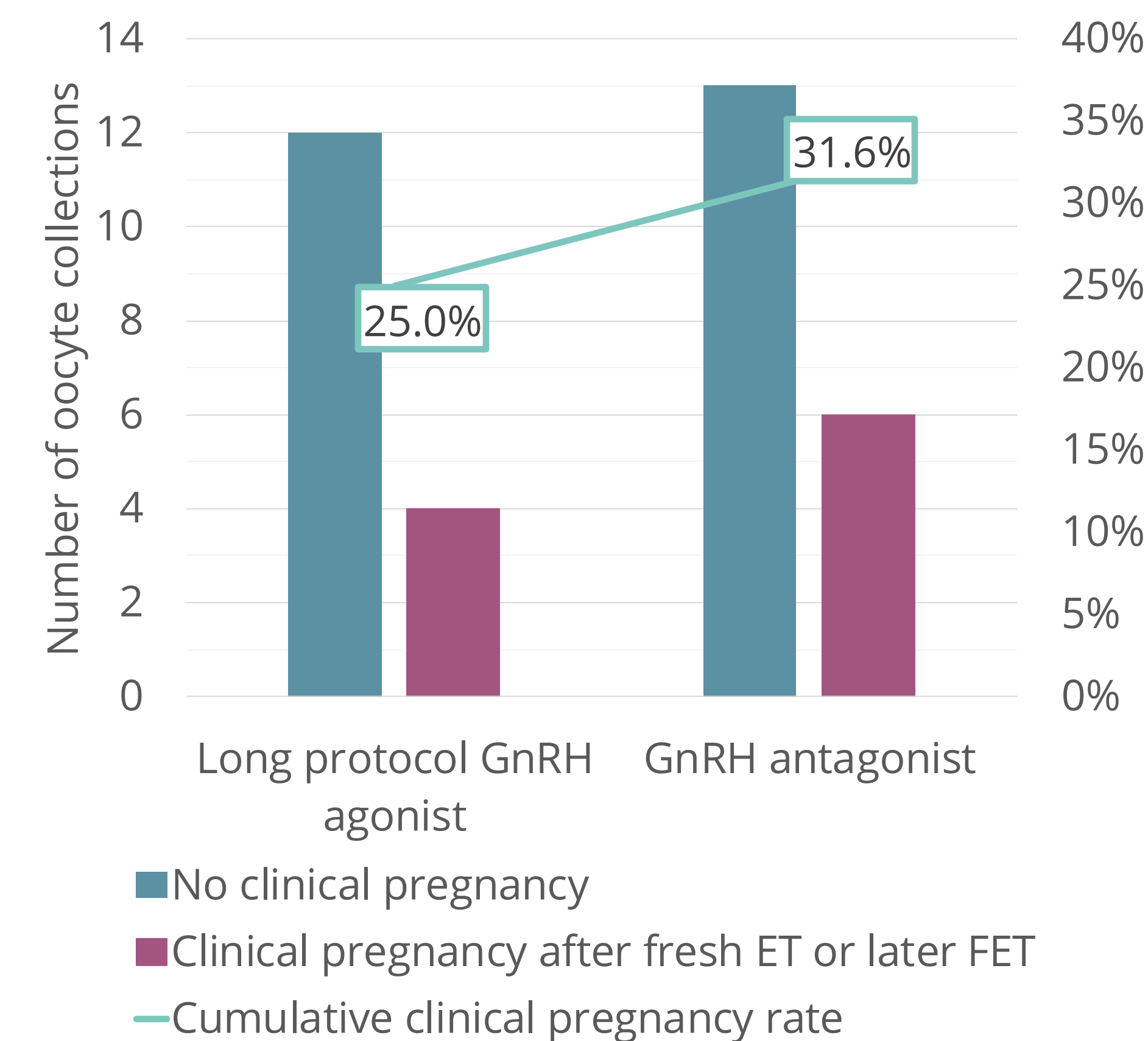


Outcome per embryo transfer



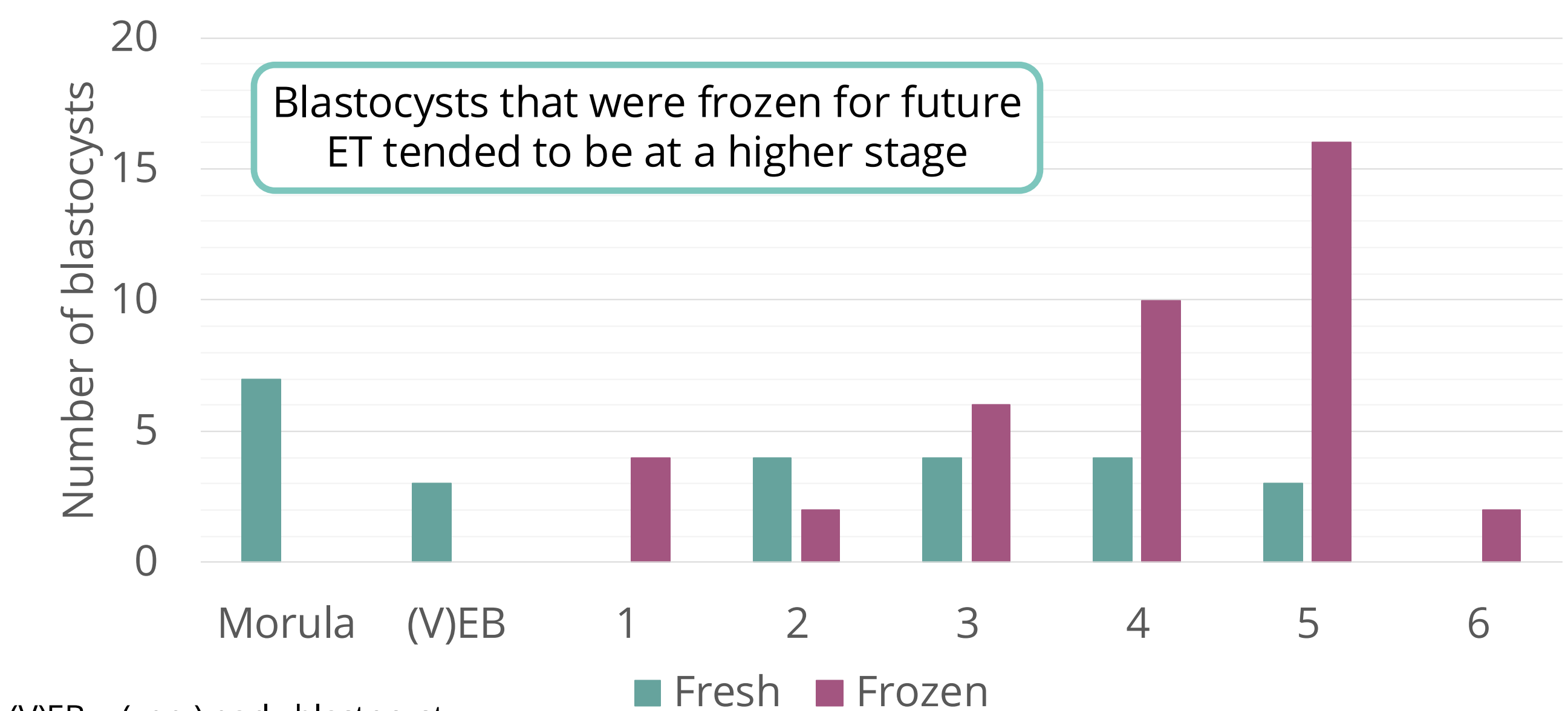
Tx type	Mean number of oocytes collected	Mean number of blastocysts formed	Mean of ratios
			Mean % of oocytes collected that form blastocysts
Long protocol GnRH agonist	10.375	2.913	24.2%
GnRH antagonist	9.458	3.682	34.4%
p=	0.6410	0.4372	0.2071

Cumulative pregnancy outcomes



Cumulative pregnancy rate defined as number of clinical pregnancies within 1 year of oocyte collection, divided by total number of oocyte retrieval cycles that had ≥ 1 fresh or frozen ET

Comparing fresh and frozen blastocyst stage at ET



(V)EB = (very) early blastocyst
Blastocysts are then graded (1-6) depending on expansion, where grade 6 has come out of the zona pellucida.

Clinical pregnancy rates were slightly higher after FET, compared to fresh ET (24.3% vs 20.8%, p value not significant). It is not possible to determine whether this is due to higher grading of frozen blastocysts.

Conclusions

- Factors such as BMI, age and AMH were similar across Tx groups
- AMH significantly positively correlated to both the number of follicles and the number of eggs collected
- **GnRH antagonist** cycle may lead to higher mean total number of **blastocysts** compared to a GnRH agonist cycle
- Clinical pregnancy rates similar across all treatment groups after ET
- **Cumulative clinical pregnancy rate** may be higher in the **GnRH antagonist** group than in the long protocol GnRH agonist group
- A suitable treatment option could be GnRH antagonist freeze-all-embryos protocol, followed by FET agonist treatment protocol¹

Limitations

- Further service evaluation/study required
- Limited by sample sizes, incomplete data set, and lack of information recorded on stage of endometriosis