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INTRODUCTION

Pretreatment with DHEA, CoQ10 and growth hormone had been widely used to improve IVF outcome especially in patients with advanced maternal age and poor ovarian reserve. This study was aimed to compare the effect of pretreatment using DHEA and CoQ10 with or without growth hormone (Norditropin) in patients with normal and poor ovarian reserve.

METHODS

- This is a retrospective review of 778 cycles from 2017 to 2019.
- According to Poseidon stratification, patients were categorized into:
 - normal AMH (≥ 8.57 pmol/L or ≥ 1.2 ng/mL)
 - low AMH (< 8.57 pmol/L or < 1.2 ng/mL)
- Then subdivided into groups given:
 - DHEA+CoQ10 only
 - DHEA+CoQ10+Norditropin.
- Patients without any pretreatment acted as control.
- 75mg DHEA and 100mg CoQ10 were given daily for a minimum of two months before oocyte retrieval.
- 3mg Norditropin injections were given one month before stimulation, thrice at 7-days interval, and thrice at 2-days interval with the start of gonadotropin stimulation.
- The outcome measures were follicle number, retrieval rate, embryo utilization rate (EUR), high-quality embryos, clinical pregnancy rate (CPR), and ET cancellation rate.

RESULTS

For low AMH patients:

- Norditropin-pretreated group showed significantly higher follicle number, EUR, and lower ET cancellation rate, followed by DHEA+CoQ10 group and control.
- Norditropin pretreatment gave the highest number of high-quality embryos and CPR, followed by DHEA+CoQ10 and control group but no significant difference was found.

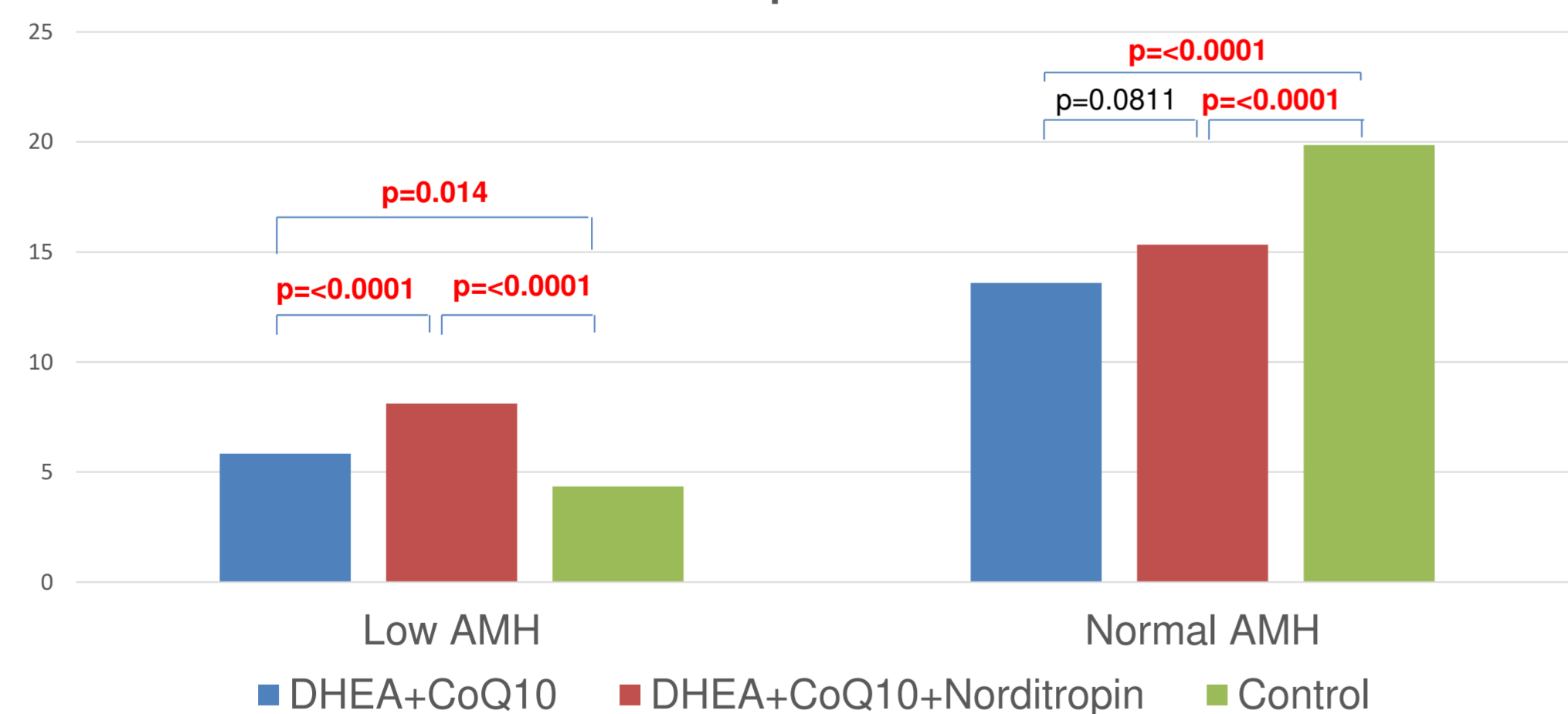
For normal AMH patients:

- Both pretreatment groups showed significantly lower follicle number, retrieval rate, EUR, high-quality embryos, CPR and higher ET cancellation rate than control.
- DHEA+CoQ10 group presented the lowest follicle number and highest ET cancellation rate while Norditropin-pretreated group showed the lowest retrieval rate, EUR, high quality embryos and CPR.

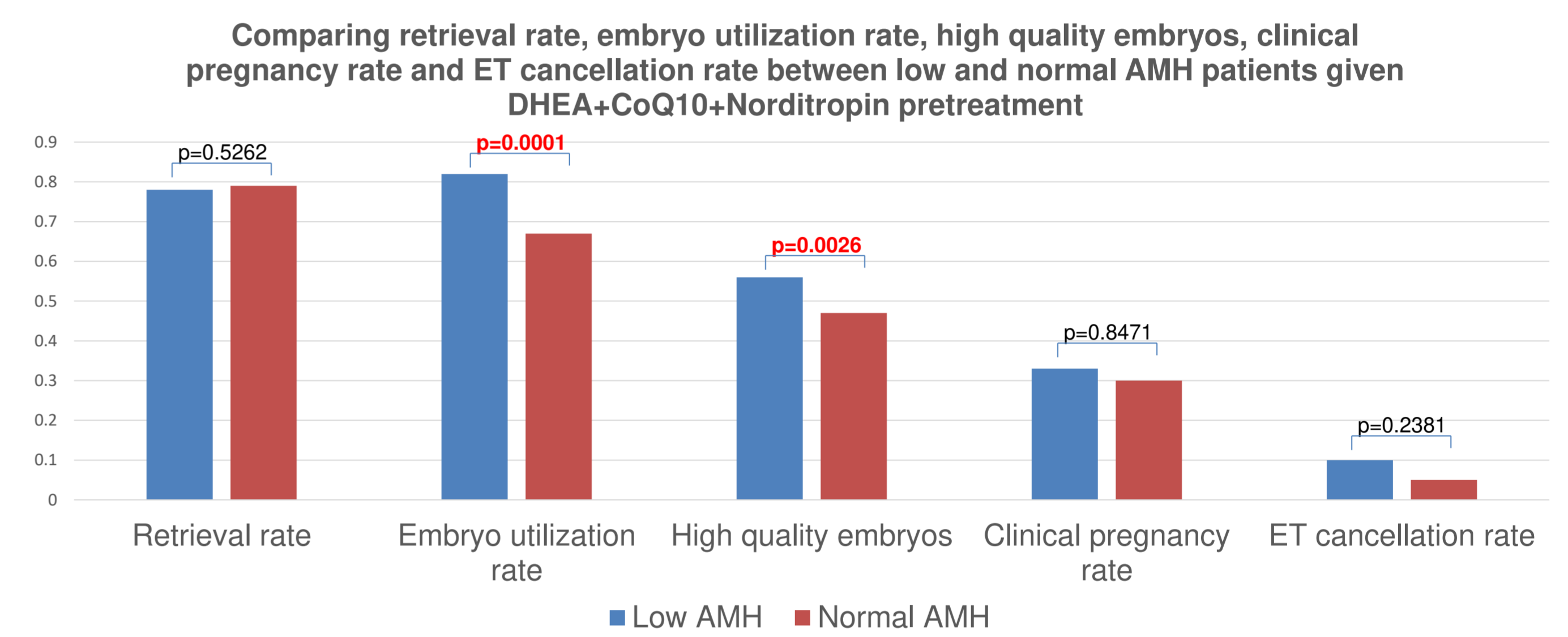
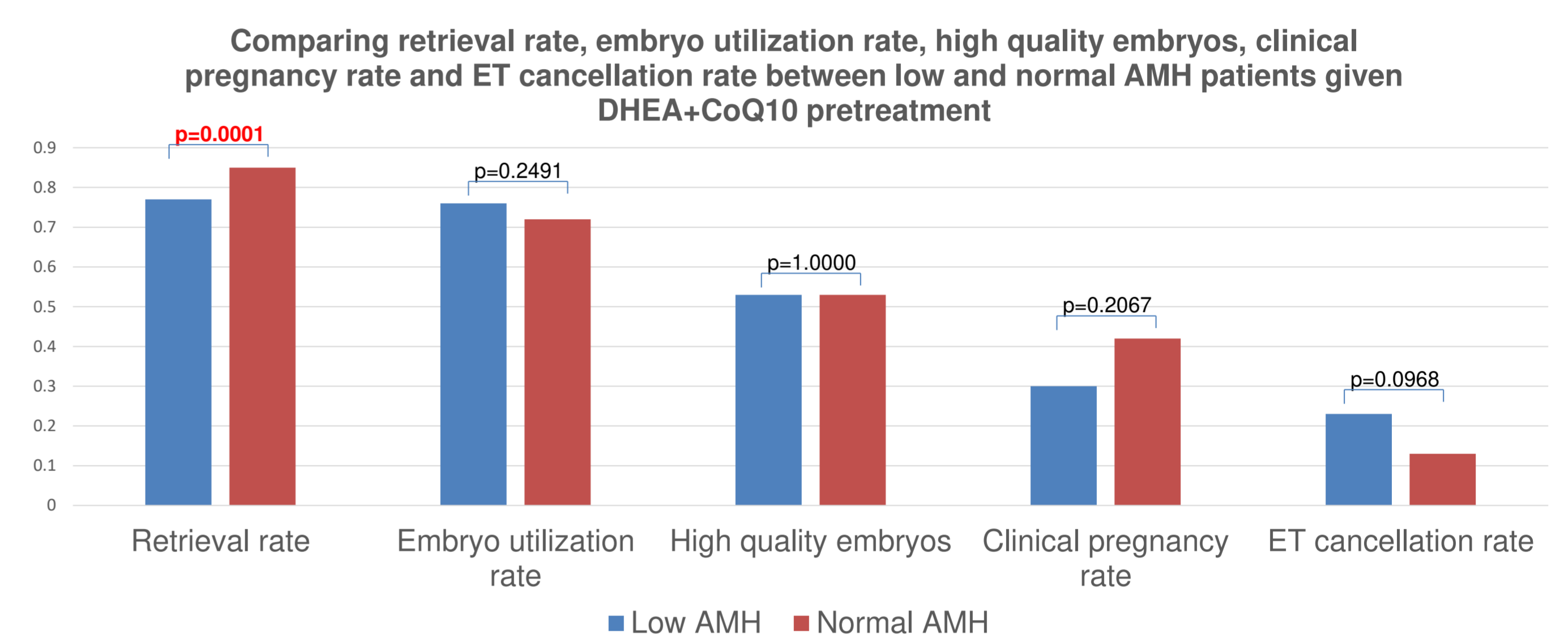
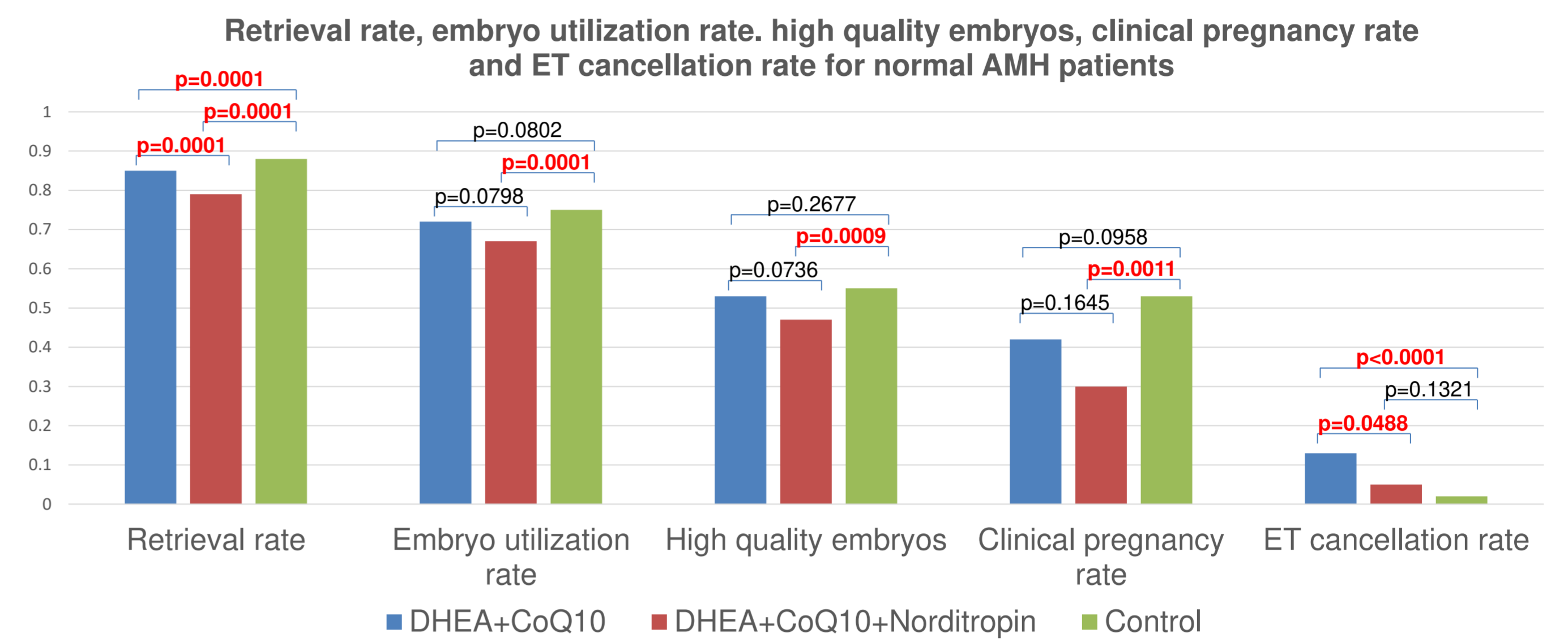
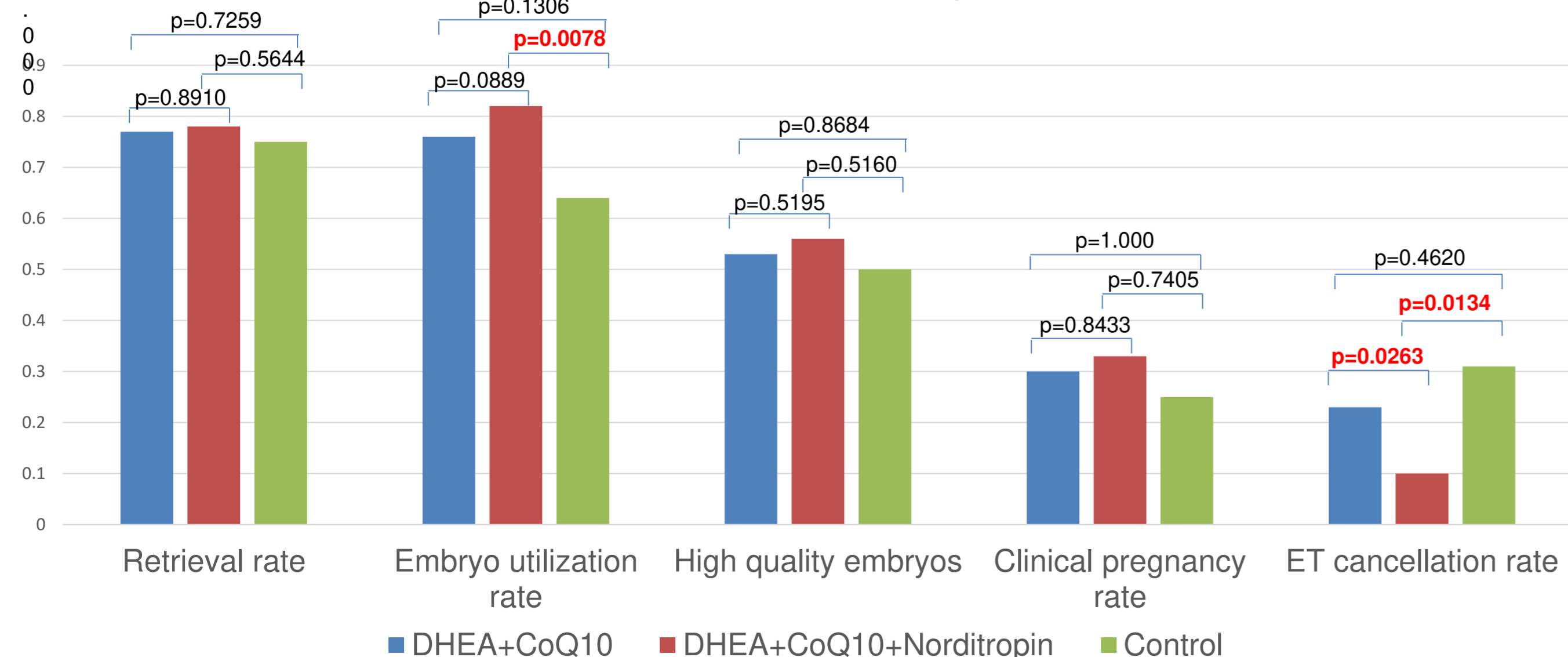
Comparing low and normal AMH patients with DHEA+CoQ10+Norditropin pretreatment:

- Norditropin pretreatment contributed to a significantly higher EUR and number of high-quality embryos in low AMH patients than normal AMH.

Mean follicle number for low and normal AMH patients with two different pretreatment



Retrieval rate, embryo utilization rate, high quality embryos, clinical pregnancy rate and ET cancellation rate for low AMH patients



p-value <0.05 -> statistically significant difference (Highlighted in red)
p-value ≥ 0.05 -> no statistically significant difference

CONCLUSION

- For low AMH patients, pretreatment gave a better outcome with lower ET cancellation rate, and higher follicle number, retrieval rate, EUR, number of high-quality embryos and CPR. Norditropin addition improved the outcome compared to DHEA+CoQ10.
- For normal AMH patients, pretreatments with and without Norditropin did not improve the outcome as compared to without pretreatment.

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