

IVF After Recurrent Breast Cancer: is it Ethical?

A Case Report

Case Summary

- 42-year-old Asian woman presents to Recurrent Miscarriage (RM) Clinic with 2 previous 1st trimester miscarriages and subfertility (>2 years to conceive)
- History of breast cancer 2017 and breast cancer recurrence 2020. In remission from recurrence for 3 years.
- Maintenance tamoxifen therapy, stopped herself to try and conceive.
- Oestrogen and Progesterone receptor positive cancer**, HER2 negative
- RM bloods all within normal range
- In vitro fertilisation (IVF) would be the optimum chance of successful conception (6% with own eggs - improved odds with donor eggs).
- Concerns raised by fertility, RM and breast team regarding IVF impact on recurrence risk.
- Already at a 5% risk of recurrence due to stopping tamoxifen already.

‘Would IVF and the hormonal treatment required increase her risk of breast cancer recurrence?’

‘Is it ethical to provide IVF to this patient?’

Literature Review

Two Systematic Reviews of fertility preservation and breast cancer and ovarian stimulation and breast cancer_{1,2}:

- Higher fertility outcomes except number of live births
- Reduced or no impact on rates or timing of disease recurrence, no impact on disease free survival or overall survival with fertility preservation

The American POSITIVE trial assessed hormone receptor positive pausing endocrine therapy to conceive or preserve fertility using fertility preservation measures or IVF and risk of disease recurrence₃:

- No impact on 3 year cancer recurrence rates
- Can safely pause endocrine therapy for 2 years without impacting disease course
- 3 year recurrence rate 9.7% of patients with ovarian stimulation protocols and hormone receptor positive cancer compared to 8.7% who didn’t have ovarian stimulation, statistically insignificant
- Women 18-42 years

No papers or case reports in peer-reviewed journals of fertility treatment in patients with or previously having recurrent breast cancer.

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Ethics

Case taken to trust ethics committee

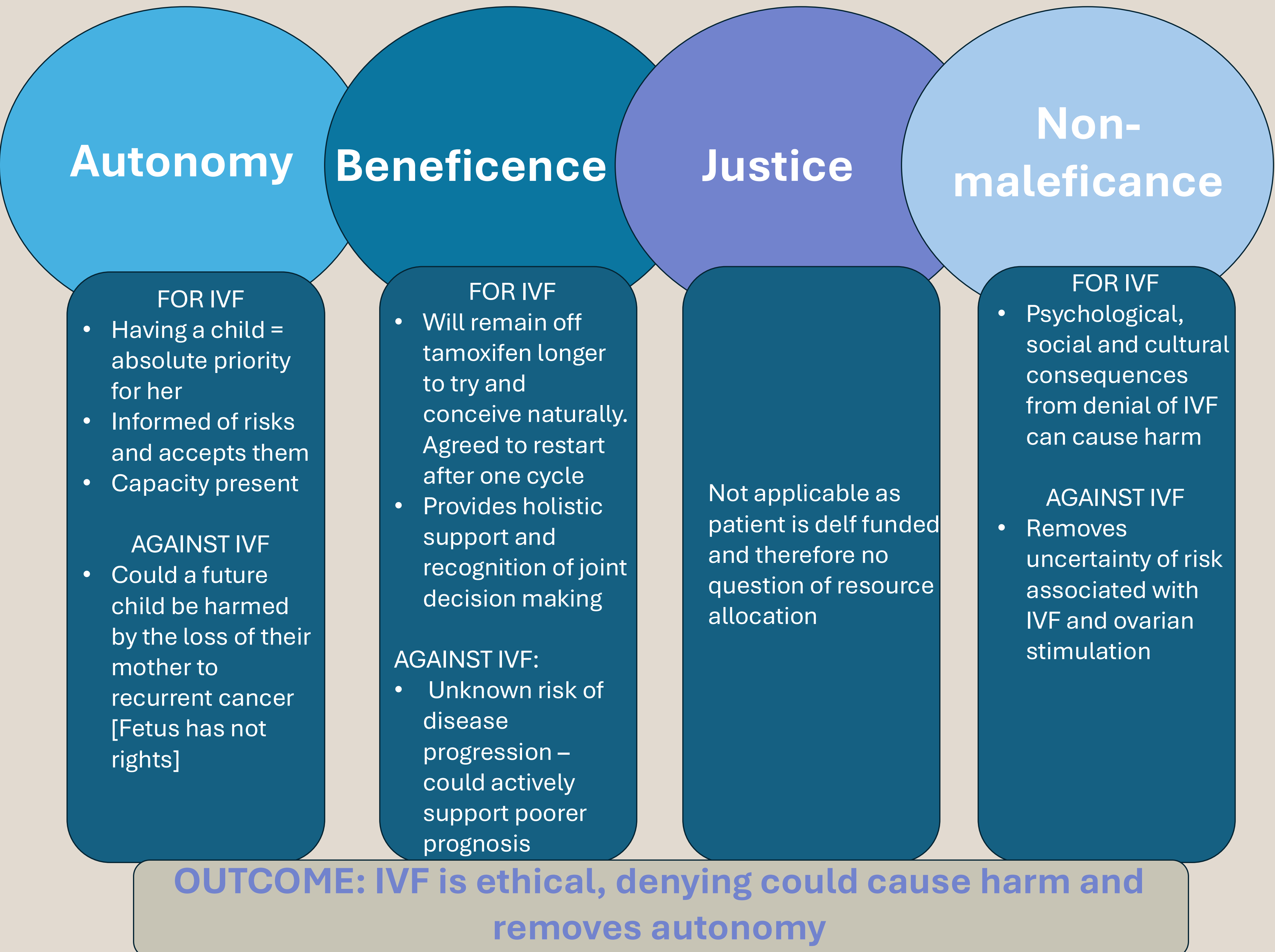
Prior to meeting:

Persons **FOR**: RM consultant and registrar, patient and husband

Persons **AGAINST**: oncologist, fertility consultant and breast surgeon

Ethics Committee Members

- 2 x lay persons
- Clinical psychologist in oncology
- Oncologist
- Anaesthetist (chair)
- Miscarriage consultant and registrar



References

1. White R, Wilson A, Bechman N, Keay S, McAvan L, Quenby S and Odendaal J. Fertility preservation, its effectiveness and its impact on disease status in pre-menopausal woman with breast cancer: a systematic review and metaanalysis. EJOG. 2023; 287: 8-19.

2. Rodgers R, Reid G, Koch J, Deans R, Ledger W, Friedlander M, Gilchrist R, Walters K and Abbott J. The safety and efficacy of controlled ovarian hyperstimulation for fertility preservation in women with early breast cancer: a systematic review. Hum Repro. 2017;32(5): 1033-1045.

3. Pagani O, Partridge A, Azim H, Peccatori F, Ruggeri M and Sun Z. POSITIVE: A study evaluating pregnancy and disease outcome and safety of interrupting endocrine therapy for young women with endocrine responsive breast cancer who desire pregnancy. <https://www.aacr.org/about-the-aacr/newsroom/news-releases/patients-with-hr-positive-breast-cancer-may-use-fertility-preservation-and-assisted-reproductive-technologies-without-increased-risk-of-recurrence/>