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Response to 'Comments on 'The incidence of leukaemia in women with *BRCA1* and *BRCA2* mutations: an International Prospective Cohort Study''

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Sir,

We thank Paradiso *et al.* from Bari for examining the Italian data base for correlation with the reported incidence of leukaemia in the families with BRCA1 and BRCA2 mutations. These authors did not take into account a past history of breast cancer or the use of cytotoxic chemotherapies in the analysis, but overall the results lend support to our conclusion that the risk of leukaemia in mutation carriers is likely to be low, if raised at all (Iqbal *et al*, 2016).

Friedenson provides a comprehensive description of the many studies that tie breast cancer susceptibility genes with propensity to leukaemia, with an emphasis on immunity and viral carcinogenesis. Little is specific to the risk in BRCA carriers. He has some concerns that our methods may have obscured a significant underlying association between BRCA gene mutations and leukaemia—we have used the same methodology to elaborate cancer risks for carriers for a range of sites, including pancreas, colon, breast and ovary. We now accept that there might be a small iatrogenic risk of leukaemia associated with chemotherapy for breast cancer in BRCA carriers, but we have also found that chemotherapy is a highly effective treatment for these patients (Narod *et al*, 2013; Metcalfe *et al*, 2015) and we cannot identify women at sufficiently high risk of leukaemia or sufficiently low risk of death from breast cancer that they might forego chemotherapy.

CONFLICT OF INTEREST

The author declare no conflict of interest.

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