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Comment on Screening by MRI Mentioned in the Reviews by Narod and Møller

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Currently many women from families with a high risk of breast cancer due to a familial or genetic predisposition, including carriers of a BRCA1/2 germline mutation, opt for intensive surveillance [1]. Several guidelines advise screening by mammography and clinical breast examination. However, the value of this screening scheme in women that often start screening under the age of 40 has never been proven. There are indications that the sensitivity of mammography is especially low in carriers of a BRCA1 or BRCA2 mutation [2, 3]. This is the main reason why the value of MRI screening is being investigated in various family cancer clinics worldwide. To date only preliminary data from small studies are available about the effectiveness of this MRI screening [4-6].

In these preliminary studies, MRI appears to be a more sensitive screening method than mammography, but this does not mean that it detects breast cancer at an earlier stage. It might be expected that MRI can detect breast cancer at an earlier stage than mammography. However, no study has been published that compares the tumour stage of patients detected within an MRI screening programme with that of comparable symptomatic patients. As stated by Narod, the main goal of screening is a stage shift towards earlier breast cancer diagnosis that might lead to a reduction in breast cancer mortality, against acceptable side effects. While the high financial costs are mentioned by Narod, many other negative effects of MRI screening have been described. For instance, some studies described a specificity much lower as compared to mammography, causing unnecessary additional investigations. These negative effects should be taken into account when making a decision to use a new screening tool.

To date no longer-term prospective studies with data about the potential of MRI to diagnose breast cancer at an earlier stage, the possible reduction of breast cancer mortality and the cost-effectiveness are available. These data can be expected from several ongoing studies in the near future [7, 8]. In this respect we agree with Møller that only when these data are available definitive and evidence-based advice about screening in high risk women can be given.

In the meantime we advise, as Narod and Møller, to consider MRI screening in high risk women in addition to the routine screening program, especially in women where mammography screening has the smallest effect, such as mutation carriers, until we have results from large prospective studies.

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