Reviewers report

Title: Cost-effectiveness of MRI compared to mammography for breast cancer screening in a high risk population

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Reviewer: marco RosselliDel Turco

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The evaluation of Cost-effectiveness of MRI compared to mammography for screening women at high risk for breast cancer is of great interest, as this procedure is now more and more adopted in many western countries. Study methodology and analysis is accurate and the study gives interesting information to evaluate the impact and cost-effectiveness of screening high risk women with MRI.

Minor Essential Revisions

Nevertheless the AA should better explain the assumptions adopted in order to calculate the QALYs.

We wonder why, given that we assume that mammography screening decline mortality from breast cancer by 7-23% and that mammography has a sensitivity of 25-36% compared to MRI sensitivity of 77-91%, the model estimates that mammography and MRI provided 23.39 and 23.57 QALYs respectively. Why the higher sensitivity of MRI do not provide benefit in term of further mortality reduction, following further advance of diagnosis. Are the benefit completely compensated by the quality of Life adjustment because of false positives cases produced by mammography and by discomfort of MRI examinations in women without a diagnosis of breast cancer?

Would be interesting to know the results of cost-effectiveness analysis without adjustment for quality of life.

These aspects should be examined in the discussion.

The threshold of <$100.000/QALY is reported in Results (pag 9 row 15) but is never used in the following discussion (to be checked)

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'