

Is hypofractionated radiotherapy in breast cancer a cost effective approach ?

Introduction:

Hypofractionated radiotherapy (HFRT) is becoming the standard treatment for breast cancer. Multiple studies have demonstrated similar efficacy and tolerability with moderate hypofractionation. In this study we aimed to assess the economic impact of HRT compared to normofractionated radiotherapy (NRT).

Methods:

We collected retrospectively all the patients treated for breast cancer between December 2017 and December 2019. All patients underwent radiotherapy at a dose of 40 Gy in 15 fractions (2.67Gy per fraction) +/- boost on the tumor bed (13.35 Gy in 5 fractions).

After 2 years, 249 patients underwent HFR, 151 patients after conservative surgery (3020 fractions per 2 years) and 143 patients after mastectomy (2145 fractions per 2 years). In NFR, it corresponds to 176 patients, 91 patients after breast conservative surgery (3020 fractions) and 85 patients after mastectomy (2145 fractions). Cost estimation was based on the National Health Insurance and Social Security basis for the repayment (235 DT per fraction). The cost of HRT per 2-years was then estimated and compared to the cost of NRT.

Results

After conservative surgery, The cost of HFR was 4 700 DT per patient and 709 700 DT per 2 years. With NFR, it is estimated at 7 755 DT per patient and 705 705 DT per 2 years.

After mastectomy, the cost of HFR was 3 525 DT per patient 504 075 DT per 2 years. With NFR, it estimated at 5 875 DT per patient and 499 375 DT per 2 years.

HRT, compared to NRT, permitted a gain of 3 995 DT (0,5%) after breast conservativ surgery and 4900 DT (1%) after mastectomy.

Conclusion:

Our study showed that HRT, compared to NRT allowed to treat more patients (more than 41%) with the same cost. In public and private sectors, HRT in breast cancer could be a cost effective procedure in addition to the carcinological equivalence and the best tolerance.

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