



## AB018. 146. Impact of progesterone receptor status on oncological outcomes in oestrogen receptor positive breast cancer patients—a systematic review and meta-analysis

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**Background:** Assessment of estrogen (ER) and progesterone receptor (PR) status provides important prognostic information in breast cancer. The impact PR status in isolation is less well defined. The standardisation of immunohistochemical assays has reduced discrepancy in studies assessing the prognostic effect of PR status. A systematic review/meta-analysis was undertaken to assess the impact of negative progesterone receptor (PR-) status on outcomes in estrogen receptor positive (ER+) breast cancer.

**Methods:** The study was performed according to preferred

reporting items for systematic reviews and meta-analyses (PRISMA) guidelines. Studies comparing disease-free survival (DFS) as the primary outcome and overall survival (OS) as the secondary outcome between PR+ and PR- status in ER+ breast cancer were identified. A meta-analysis of time-to-event measures from each of the eligible studies, specifically hazard ratios (HRs), was performed.

**Results:** Seven studies including 10,613 patients in the ER+PR+ group and 2,371 patients in the ER+PR- group met the inclusion criteria. Treatment characteristics did not differ significantly between the two groups. Patients in the ER+PR- group had a higher risk of disease recurrence over the study time period than those who had ER+PR+ disease [DFS HR 1.57; 95% confidence interval (CI): 1.30–1.80;  $P < 0.01$ ] and this effect was increased in patients who were HER2 negative (DFS HR 1.63; 95% CI, 1.34–1.98;  $P < 0.01$ ). A similar result was observed for OS (OS HR 1.60; 95% CI, 1.19–2.14,  $P < 0.01$ ).

**Conclusions:** PR- status is associated with a significant reduction in DFS and OS in ER+ disease. This may have implications for treatment and surveillance strategies in this cohort of patients.

**Keywords:** Breast; cancer; hormone; progesterone; survival

doi: 10.21037/map.2019.AB018

**Cite this abstract as:** Ryan É, Boland M, Dunne E, Bhatt N, Lowery A. Impact of progesterone receptor status on oncological outcomes in oestrogen receptor positive breast cancer patients—a systematic review and meta-analysis. *Mesentery Peritoneum* 2019;3:AB018.