

A gap analysis of opportunities and priorities for breast surgical research

We read with interest the thoughtful analysis of current priorities in surgical breast cancer research by Ramsey Cutress and colleagues¹ on behalf of the Association of the Breast Surgery Surgical Gap Analysis Working Group. We value the authors' concept of building a national project to identify open research questions in the field of locoregional treatment, a cornerstone of breast cancer therapy. Despite the large numbers of patients with breast cancer, the aims of surgical research are difficult to accomplish because of substantial obstacles that hinder ideas from being transformed into practice-changing data. First, clinical trials are almost exclusively initiated and done in different national settings. As a result, accrual of sufficient case numbers is difficult, time to completion (if reached) is unacceptably long, and underpowered trial results lead to statistical uncertainties. The limitation of research to separate national initiatives also leads to the simultaneous performance of very similar projects: three national randomised trials (SOUND², INSEMA³, BOOG13-08⁴) have independently been launched to investigate the omission of sentinel lymph node biopsy in patients with early breast cancer, and three other parallel trials (SENOMAC⁵, POSNOC⁶, SINODAR ONE⁷) aim to confirm the safety of omitting axillary dissection in patients with a positive sentinel lymph node biopsy. Second, there are few opportunities to achieve cross-border funding for academic surgical research, especially when propagating de-escalating treatments. To overcome this fragmentation of European surgical research initiatives, a group of principal investigators leading major European trials founded the international collaborative

non-profit initiative EUBREAST European Breast Cancer Research Association of Surgical Trialists (EUBREAST) in September, 2018. EUBREAST offers an independent scientific forum for its members to develop collaborative, cross-border research projects that draw synergy from leading European expertise, optimising resource utilisation, and joining efforts to achieve solid scientific results in the shortest possible period of time. Because of its multidisciplinary approach to breast cancer, EUBREAST embraces other diagnostic or therapeutic disciplines and broadens collaboration with existing networks, always with the aim of improving patients' quality of life while maintaining or improving oncological outcome, with the goal of allowing patients to not only live longer, but live better.

The path staked out by the Association of Breast Surgery Surgical Gap Analysis Working Group appears of utmost importance in systematically defining priorities for surgical breast cancer research. As a next step, the transformation of research ideas into clinical trials should be optimised by broadening international collaboration and harmonising the efforts of national study groups. The high standard of breast cancer treatment in Europe and the extraordinary commitment of its researchers, if merged into collaborative efforts, are enormous assets to help achieve practice-changing progress in locoregional treatment strategies of breast cancer, and could substantially shorten the time from trial initiation to result implementation.

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- 1 Cutress RI, McIntosh SA, Potter S, et al. Opportunities and priorities for breast surgical research. *Lancet Oncol* 2018; **19**: e521-33.
- 2 Gentilini O, Veronesi U. Abandoning sentinel lymph node biopsy in early breast cancer? A new trial in progress at the European Institute of Oncology of Milan (SOUND: Sentinel node vs Observation after axillary UltraSouND). *Breast* 2012; **21**: 678-81.
- 3 Reimer T, Hartmann S, Stachs A, Gerber B. Local treatment of the axilla in early breast cancer: concepts from the national surgical adjuvant breast and bowel project B-04 to the planned intergroup sentinel mamma trial. *Breast Care (Basel)* 2014; **9**: 87-95.
- 4 van Roozendaal LM, Vane MLG, van Dalen T, et al. Clinically node negative breast cancer patients undergoing breast conserving therapy, sentinel lymph node procedure versus follow-up: a Dutch randomized controlled multicentre trial (BOOG 2013-08). *BMC Cancer* 2017; **17**: 459.
- 5 de Boniface J, Frisell J, Andersson Y, et al. SENOMAC Trialists' Group. Survival and axillary recurrence following sentinel node-positive breast cancer without completion axillary lymph node dissection: the randomized controlled SENOMAC trial. *BMC Cancer* 2017; **26**: 379.
- 6 Goyal A, Dodwell D. POSNOC: A randomised trial looking at axillary treatment in women with one or two sentinel nodes with macrometastases. *Clin Oncol (R Coll Radiol)* 2015; **27**: 692-95.
- 7 Tinterri C, Canavese G, Bruzzi P, Dozin B. SINODAR ONE, an ongoing randomized clinical trial to assess the role of axillary surgery in breast cancer patients with one or two macrometastatic sentinel nodes. *Breast* 2016; **30**: 197-200.