Comments to the paper: Influence of mammography screening on use of mastectomies in Denmark

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In the letter to the editor by Jørgensen et al. [1], the influence of mammography screening on mastectomy rates in Denmark is evaluated and discussed based on results from our recent published position paper [2] and data from a previous publication by Jørgensen et al. [3]. However, on the grounds specified below, we question the validity of the Jørgensen data for such evaluation, and we do not find it justified that our conclusions should be changed.

Jørgensen et al. claim that "Breast screening seems to increase the risk of a mastectomy". As seen in the figure 1 presented by Jørgensen et al., the introduction of nationwide screening in Denmark only led to a very small and temporary increase in the incidence of women mastectomized for breast cancers in 2008–2009. Thereafter, the incidence rate of mastectomy seems to continue the decline observed before 2008. The statement by Jørgensen et al. is therefore not supported by the Danish data.

Jørgensen et al. refer to published data from Norway pointing at a increase in mastectomies after mammography screening [4]. Actually, the Norwegian results are much like our published Danish results. A short and temporary increase in mastectomy rate was seen in the prevalence phase of screening, but thereafter mastectomy rates relative to the rate before screening did not differ between the screened age group and age groups 40–49 and 70–79.

Concerning the difference in incidence rates for mastectomy in figures 1 and 2 in Jørgensen et al.'s paper, we believe there are several explanations. It is well known that data from the two independent data sources might differ, but it is previously documented that the Danish Breast Cancer Cooperative Group (DBCG) register and the National Board of Health (NBH) data concerning new diagnosed breast cancer have about 95% concordance [5]. Therefore, the different data sources in itself should not be of fundamental importance. Also, the precision of the registration of surgical treatment in the DBCG register is high. In an ongoing study (Bodilsen et al. unpublished data) on results of breast conserving surgery in more than 14 000 patients treated by BCS, all registrations in the national registers NBH and The National Pathology Data Bank (Patobank) were compared to the registrations in DBCG. Only around 2% of the patients registered with a BCS turned out to have gone through a mastectomy. In figure 2 with data from the position paper [2], only patients with invasive carcinoma were included. Therefore, the incidence rates for mastectomy are not directly comparable to figure 1, where both patients with invasive and patients with in situ carcinoma are included. Mastectomy rates in figure 2 should in the period from 2004 until 2011 thus be increased with up to 10 per 100 000 women per year, as seen in figure 6 in Christiansen et al. [2]. This, however, does not explain the rather big difference between the incidence rates, which up to 2000 amounts to about 30–40 per 100 000 per year and thereafter increase even further to about 50 per 100 000 per year. Such a difference could only be explained by different definitions of who to include. The data source for figure 1 was the NBH, but Jørgensen et al. did not give any information on which patients were included in the figure. It seems obvious that all mastectomies performed within the period were included, and therefore the rates of mastectomy do not compare to

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the figure 2 data only including patients with new diagnosed breast cancer. Thus, mastectomies performed for recurrent breast cancer and also prophylactic mastectomies are probably included in figure 2. The higher difference between the incidence rates for mastectomy seen in the latest years are in agreement with this assumption, as the number of prophylactic procedures are increasing from 2000. Also, the increased frequency of breast conserving surgery seen in the same period (from about 30% to 70%) [5], increase the mastectomy rate for recurrent disease, as recurrences after mastectomy are not coded as mastectomy. Mastectomies not performed on newly diagnosed cases should not be included in the comparison of mastectomy rates in relation to mammography screening.

With no information on these important definitions it is not possible to make reasonable conclusions from Jørgensen et al.'s letter. However, we are certain that the general development with fewer mastectomies due to increased treatment quality and the fact that the mastectomy rate declines following the prevalence screening is a positive message. Based on Jørgensen et al.'s letter we find no reason to change our conclusions from the position paper. Mammography screening in Denmark does not seem to increase the mastectomy rate.

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