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Question: Should clip-marking vs no clip-marking after needle core biopsy (NCB)/vacuum assisted needle core biopsy (VANCB) be used for surgical therapy planning in patients with breast cancer lesions ?

Setting: European Union

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	clipmarking	no clip-marking after needle core biopsy (NCB)/vacuum assisted needle core biopsy (VANCB)	Relative (95% CI)	Absolute (95% CI)		

Number of patients with Close/Positive margins^a

1 ¹	observational studies	serious ^b	not serious	not serious ^c	serious ^d	none	16/145 (11.0%)	35/228 (15.4%)	RR 0.72 (0.41 to 1.25)	43 fewer per 1,000 (from 91 fewer to 38 more)	⊕○○○ VERY LOW	CRITICAL
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Local breast recurrence (overall) (follow up: median 49 months)

1 ¹	observational studies	serious ^b	not serious	not serious ^c	serious ^e	none	2/145 (1.4%)	19/228 (8.3%)	RR 0.17 (0.04 to 0.70) ^f	69 fewer per 1,000 (from 80 fewer to 25 fewer)	⊕○○○ VERY LOW	CRITICAL
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Risk of recurrence (follow up: median 49 months; assessed with: Cox hazard multivariate model)^f

1 ¹	observational studies	not serious	not serious	not serious ^c	serious ^d	none	2/145 (1.4%)	19/228 (8.3%)	HR 0.27 (0.06 to 1.16)	60 fewer per 1,000 (from 78 fewer to 13 more)	⊕○○○ VERY LOW	CRITICAL
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Mortality^g

1 ¹	observational studies	serious ^b	not serious	not serious ^c	serious ^e	none	5/145 (3.4%)	35/228 (15.4%)	RR 0.22 (0.09 to 0.56)	120 fewer per 1,000 (from 140 fewer to 68 fewer)	⊕○○○ VERY LOW	CRITICAL
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Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	clipmarking	no clip-marking after needle core biopsy (NCB)/vacuum assisted needle core biopsy (VANCB)	Relative (95% CI)	Absolute (95% CI)		

Adverse events

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CI: Confidence interval; RR: Risk ratio; HR: Hazard Ratio

Explanations

- This is an operational definition of "final margin status". The status "close" means that the post-surgical specimen had less than 2 mm. of free cancer cells margin. Twelve (8.3%) and four (2.7%) women had close or positive margins respectively in the clip group whereas 23 (10.1%) and 12 (5.3%) of women had close and positive margins respectively in the group without clip.
- There is a serious risk of bias due to confounding factors; women without clip had a more advanced nodal disease (24.5%) than women with clip (13%). The neoadjuvant chemotherapy was not the same for everyone, only 53% received an additional taxane cycle. The reasons for not deployment of a clip in the control group were not clear. There were missing data regarding lymphovascular invasion status, it was unknown in 13% of the total population, it represented 18% of women with clip and 9% in women without a clip.
- Since Oh 2007 included women with palpable lesions, for women with non-palpable lesions the confidence should be downrated due to indirectness.
- The margins of confidence intervals are wide, so there is not enough certainty about the real impact of the intervention.
- The number of events was small. This fact may affect the robustness of estimations.
- This outcome is a supplementary measure for local breast recurrence. None of the 57 women with residual disease (RD) with a clip inserted presented local recurrence; compared with 11 of the 113 (9.7%) women with RD but without clip placement RR 0.09 (95% CI, 0.01-1.42). In women with pathological complete response (pCR) or near pCR there were no differences in local recurrences between clip and no-clip groups (2.47% and 6.48% respectively, RR 0.38 (95% CI 0.08- 1.8). Other three factors were independently associated with an increased hazard for local recurrence: T3-T4 clinical tumor size versus clinical stage 1-2 HR 2.66 (95% CI 1.03-6.86), Close or positive margins versus negative margins HR 3.37 (95% CI 1.13-10.07) and Modified Black Nuclear grade (MBNG) 3 versus MBNG 1 or 2 HR 3.86 (95% CI 1.13-13.22).
- Mortality rate was selected instead of overall survival, due to incomplete data reporting.

References

- Oh JL, Nguyen G, Whitman GJ, Hunt KK, Yu TK, Woodward WA, et al.. Placement of radiopaque clips for tumor localization in patients undergoing neoadjuvant chemotherapy and breast conservation therapy.. Cancer; 2007.