

Is routine appendectomy justified in mucinous borderline ovarian cancer?

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ABSTRACT

Mucinous borderline ovarian tumors represent up to one half of cases diagnosed with borderline lesions and are usually associated with favourable outcomes. When it comes to the therapeutic options in these cases, the initial trend was to adopt the same strategy as in cases presenting invasive mucinous lesions. However, studies conducted so far can demonstrate that the appendix presented tumoral infiltration in an extremely low number of cases especially if a normal macroscopical aspect was present and therefore routine appendectomy was no longer recommended. The aim of the current paper is to investigate in which cases appendectomy should still be part of the therapeutic strategy in mucinous borderline ovarian tumors.

Keywords: appendectomy, mucinous, borderline ovarian tumor, invasion

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INTRODUCTION

Borderline ovarian tumors represent a particular subset of ovarian neoplasms which is distinguished from ovarian cancer by the absence of invasion at the level of the ovarian tumor (1). Therefore, this type of ovarian neoplasms is associated with significantly improved long term prognosis when compared to ovarian carcinomas (2). Among borderline ovarian neoplasms, the mucinous subtype accounts for up to one half of cases (2). Meanwhile, mucinous borderline ovarian tumors have been classified at their turn in two categories according to the clinico-pathological aspect: the gastro-intestinal type – accounting to up to 90% of all mucous borderline ovarian tumors and the endocervical type. Moreover, when it comes to the gastro-intestinal subtype, it has similar aspects with primary mucinous tumors of the appendix and therefore the differential diagnosis between the two entities can be hard to be established (3).

THERAPEUTIC STRATEGIES IN MUCINOUS BORDERLINE OVARIAN TUMORS

When it comes to mucinous ovarian tumors, it has been widely demonstrated that staging and debulking surgery should be considered the standard of care and should routinely include appendectomy; however, in cases presenting borderline ovarian tumors, staging or debulking strategy is controversial, being considered most often as an excessive procedure. Meanwhile, it should not be omitted the fact that the information obtained at the frozen section has a low accuracy and sensitivity and therefore decision should not be taken only based on these data (4). Therefore, in such cases significant controversies exist.

RATES AND RISK FACTORS FOR APPENDIX INVOLVEMENT IN MUCINOUS BORDERLINE OVARIAN TUMORS

It has been widely accepted so far that all macroscopically pathologic specimen of appendix should be removed during surgery for mucinous ovarian tumors; however, discussion should be carried out in cases presenting a macroscopically normal appendix.

An interesting study which was conducted on the issue of the rationale for appendectomy in patients diagnosed with mucinous borderline tumors and apparently normal was conducted by Ozcan et al. and included 129 cases; among the 97 cases submitted to appendectomy, there were nine cases di-

agnosed with lymphoid hyperplasia, two cases were diagnosed with mucocele, and one each with carcinoma tumor of the appendix, metastasis from ovarian mucinous tumor and nine primary appendiceal carcinoma. Therefore, the authors concluded that appendectomy should not be routinely associated in cases in which the frozen section demonstrates the presence of a borderline ovarian tumor especially if the appendix has a normal macroscopical aspect (5).

A similar conclusion was obtained from the study conducted by Kleppe et al. and published in 2014; the study included 98 patients with primary mucinous borderline ovarian tumors and 29 patients diagnosed with primary mucinous appendiceal tumors; among patients with borderline ovarian tumors appendectomy was performed in 13 cases, in all cases the appendix having a normal aspect. None of these cases was found to have malignant cells at the level of the appendix during the histopathological studies. Meanwhile, after a median follow up period of 5 years none of the cases in which the appendix was left in place did not reported a recurrence at this level (6).

The subject was also included in the currently published French guidelines regarding the surgical management of borderline ovarian tumors the authors underlined the fact that in presumed early stages of the disease appendicular invasion is present in less than 3% of cases presenting an apparently normal appendix; therefore, they also recommended that the appendix should be removed only in cases in which a pathological macroscopic aspect is encountered; meanwhile if the appendix had not been visualised, when performing restaging surgery, it should be carefully inspected (7).

These data come to demonstrate that although performing an appendectomy is a relatively simple gesture, with low risks of postoperative complications, minimal costs and minimal increase of the operative time, it is in essence unjustified, in most cases no supplementary information being achieved (8-10).

CONCLUSIONS

In patients with mucinous borderline ovarian tumors appendectomy seems to be justified solely in cases presenting a pathological macroscopic aspect of the appendix. In the remaining cases, in which a macroscopically normal aspect is encountered, appendectomy should not be routinely associated, the risk of microscopic tumoral involvement being minimal.

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