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Junk Science or Junk Information

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INTRODUCTION

The recent commotion about the risk of unexpected malignancy after power morcellation at laparoscopy had certain impact on the daily surgical approaches of Gynecologists not only in the USA but, also, in Europe [1].

The key question is whether the well acknowledged advantages of laparoscopy are outweighed by the risk of dissemination of an undiagnosed leiomyosarcoma by electromechanical morcellation.

DISCUSSION

First of all, the precise risk of undetected malignancy in a woman undergoing planned hysterectomy is difficult to determine precisely and is directly related to the age of the patient, while this risk may be different in the age group of women of reproductive age who undergo laparoscopic myomectomy [author's personal data]. According to FDA statement 1/350 women with myomectomy or hysterectomy have underlying uterine cancer [2], while it seems from the available literature that this risk is much less frequent and is estimated to 0.12 leiomyosarcomas per 1000 procedures (95% CI < 0.01 - 0.75) [3]. This discrepancy may be attributed to the scientific value of the manuscripts, most of which were retrospective and with small numbers of patients, as well as to methodological and statistical flaws.

The second crucial issue is the diagnostic reliability to distinguish between a benign myoma and a malignant leiomyosarcoma. Even if preoperative precise diagnosis is not possible since specific features of sarcomas just like growth pattern, necrosis and increased vascularity are common among these two entities, the existence of these characteristics should discourage the use of power morcellation. Today, there is no pathognomonic diagnostic imaging criteria to differentiate between myoma and leiomyosarcoma and neither U/S scan, MRI or even PET-CT can precisely put the correct diagnosis. The use of serum markers is, also, inconclusive, since CA-125 is of limited diagnostic value, while the use of the total LDH and LDH isozyme type 3 may be of some value.

Another important issue is whether electromechanical morcellation *per se* upstages the disease or tissue dissemination may occur even after "en bloc" removal of an undiagnosed leiomyosarcoma. The available literature, even if it relies on just two case reports is indicative that power morcellation itself upstages the disease and has a negative impact on the prognosis.

So, should we abandon the use of power morcellation during laparoscopy and return back to the traditional laparotomy? In this case we have to take into account the possible risks and of this approach, which are considerable, as it has been proved that abdominal surgery is associated with more hysterectomy-related deaths and surgery-related complications [4].

It is clear that there is much research that is needed to be done. The "in-bag" morcellation is undoubtedly a step

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forward, which can resolve the problem of tissue dissemination into the peritoneal cavity. Furthermore, it is obvious that the gynecologic community needs to develop a reliable means of pre-operatively identifying patients at high risk of uterine sarcomas who are not candidates for laparoscopic approach, thus minimizing the risk of operating an undiagnosed malignancy.

CONCLUSION

Minimal invasive surgery is here to stay and the "..sarcoma-awareness" will certainly lead to improvements in diagnosis and optimal surgical management.

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