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Case Report Open Access

Surgical Approach of Cervical Cancer Liver Metastases: Case Report

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Abstract

Cervical cancer is an aggressive malignancy with a high tendency of invasion of the surrounding organs and also with capacity to give birth to metastases on both lymphatic and hematogenous routes. Cases who present distant metastases at the moment of diagnosis are generally referred to the medical oncologist than to the surgeon; however increasing reports on the benefit of liver surgery in non-colorectal non-neuroendocrine liver metastases have decreased the general reluctance to perform radical visa surgery on such cases. We present the case of a 53 years old female diagnosed with cervical cancer and liver metastases in which a radical resection was performed with good oncologic outcomes.

Keywords: Uterine cervical cancer; Radiation therapy; Liver metastases; Liver resection

Introduction

Cervical cancer still represents a major health problem with a reported annual incidence of 371.000 cases and a death rate of 190.000 women/year [1]. These data reflect the presence of a tumor with an aggressive behavior. The most important patterns of spread are local – through direct invasion into the surrounding viscera, lymphatic – responsible for the apparition of pelvic and para-aortic lymph node metastases and hematogenous. In patients with advanced cervical cancer metastases to the para-aortic lymph nodes they are usually secondary to those located in the pelvis, the frequency of positive para-aortic lymph nodes increasing with FIGO stage from 5% in FIGO stage IB1 to 30% in FIGO stage III [2,3]. Skip metastases direct to the inter aortico-caval lymph nodes with negative pelvic nodes are very rare. When studying the orderly process of nodal metastases in para-aortic lymph nodes there are studies which support a discontinuous metastatic dissemination. Gil Moreno et al. demonstrated that negative inframesenteric aortic lymph-nodes can be associated with positive infrarenal lymph nodes in about one third of patients with advanced cervical cancer [4].

When it comes to the presence of distant metastases by hematogenous spread, things are not so well standardized. The main locations of hematogenous metastases are bones, liver and lungs. The frequency of liver metastases reaches almost 3% and sometimes represents a contraindication for surgery. In cases with isolated liver metastases surgery might be tempted with good results [5].

Case Report

The 53 years old female presented for vaginal bleeding and pelvic pain. The local exam showed a large cervical tumor developed anteriorly, which was biopsied; the histopathological findings revealed a poor differentiated squamous cervical cancer. The patient was addressed to the oncology clinic and brachytherapy and external beam radiation therapy were performed. The computed tomography prior to surgery showed decrease in dimensions of the cervical tumor with a slight discontinuity of the demarcation line between the urinary bladder and the tumor, large pelvic and para-aortic lymph node metastases with a maximum diameter of 2.5 cm and a liver metastasis located in the 7th hepatic segment according to Couinaud's classification (Figures 1-3). Surgery was performed one month after completing the neo-adjuvant treatment. Intraoperatively an adherent to the urinary bladder tumor was found but with no tumoral invasion, so a radical hysterectomy en bloc with bilateral adnexectomy was performed. Lymphadenectomy included dissection of the pelvic groups – obturatory fossa, iliac group and abdominal ones- para-aortic groups – from the aortic bifurcation to duodenum (Figures 4-6). The inferior mesenteric artery was identified and completely dissected. Three liver metastases were also found in segments V, VI, VIII and were resected (Figure 7). The postoperative course was uneventful, the patient being discharged in the 8th postoperative day. Histopathological findings showed a moderate to poor differentiated squamous cell carcinoma.

Discussions

Although there are screening tests largely used worldwide in order to detect cervical cancer in an early stage of the disease, an important number of patients are diagnosed in advanced stages [1]. Once the patient is diagnosed with an advanced malignancy aggressive surgical approach represents the only way a good control of the disease can be obtained [6]. The aggressive biology of this tumor is demonstrated both by the local invasion of the surrounding organs and the capacity to metastazise through lymphatic or hematogenous ways. Local invasion of the surrounding viscera takes place in the moment when the compartimental borders, which are in fact natural barriers in front of the neoplastic process, are destroyed. When talking about cervical cancer the most important compartimental borders are represented by the peritoneal reflections from the urinary bladder to the uterus anteriorly and the reflection from the anterior rectal wall to the posterior surface of the uterus posteriorly [7]. In the moment when these barriers are destroyed tumoral invasion in the surrounding organs appears and multivisceral resections are needed in order to obtain a good local control of the disease [6,7]. In our case preoperative computed tomography showed a zone of possible tumoral invasion in the posterior wall of the urinary bladder but intraoperatively this was not found.

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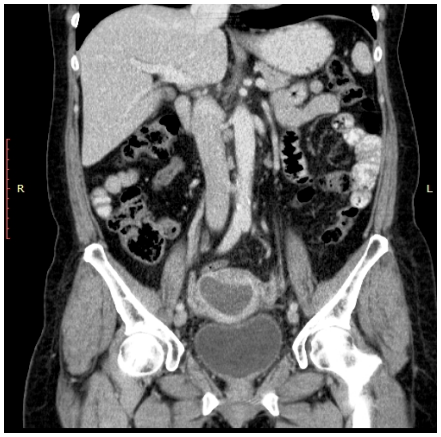

Figure 1: Large Inter-Aortico –Caval and Pelvic Adenopathies.

Figure 2: Cervical Tumor in close contact with the Posterior wall of the Urinary Bladder associated with Pre-Aortic Lymph Node.

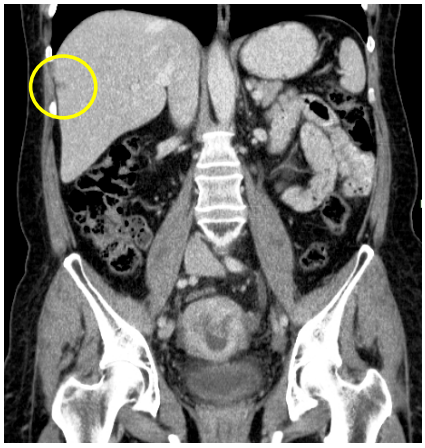

Figure 3: Liver Metastasis.

The lymphatic route represents the second pattern of spread in cervical cancer. Studies have shown that the presence of lymph node metastases, particularly para-aortic lymph node involvement associated with tumor stage is the most important prognostic factors [4,8]. Classically it was considered that the process of dissemination using the lymphatic channels is an orderly one, from the pelvic lymph nodes to the ipsilateral common iliac, inframesenteric and infrarenal aortic nodes. Recent studies have demonstrated that this pattern of spread isn't respected in all situations, cases with negative inframesenteric nodes and positive infra-renal nodes being reported [4,9]. In our case large lymph nodes were found both in pelvis and on the whole antero-lateral surface of the abdominal aorta from its' bifurcation to the duodenum. The important dimensions of these lymphadenopathies and the close contact with the great vessels makes them hard to be controlled by other methods than surgery. While pelvic node metastases can receive doses of 50-60 Gy to obtain an efficient control of the metastases, bulky para-aortic lymph nodes cannot be controlled through this procedure [10]. In cases presenting enlarged lymph nodes (>2 cm) an adequate dose of radiation to sterilize these tumoral masses would be unacceptable for the surrounding vessels or the spinal cord. Based on this concept important studies recommend surgery in order to remove bulky macroscopically positive lymph nodes associated with adjuvant chemo-irradiation for the possible remnant micrometastases [11-13].

While in cases with multiple bulky lymph nodes the most efficient therapeutic protocol is widely accepted as being aggressive surgical

Figure 4: Large Preaortic Adenopathies situated from the Duodenum to the Aortic Bifurcation.

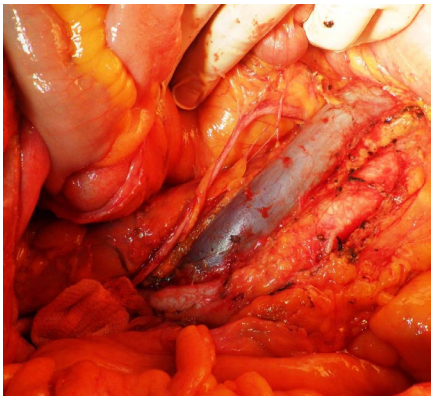

Figure 5: The final aspect after Inter-Aortico-Caval Lymph Node dissection.

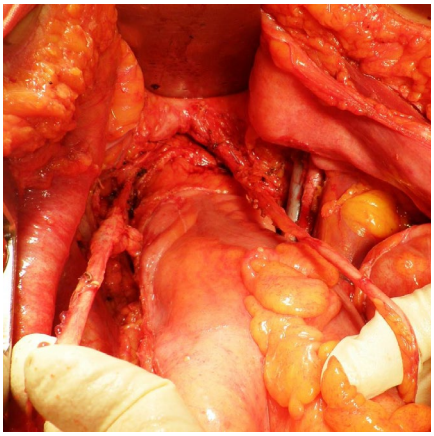

Figure 6: The final aspect of Pelvic dissection: the 2 Ureters and the Urinary Bladder are completely dissected.

Figure 7: Liver Metastasis.

resection, when it comes to liver metastases from cervical cancer, things are not so clear. One of the main reasons for this fact is the lack of large randomized studies and the small number of patients included in the existing studies.

Liver metastases from cervical cancer are rarely seen, being reported in 2-3% of cases [5]. Based on the success reported in treating liver metastases from colo-rectal cancer or neuro-endocrine tumors, some authors tried to evaluate which is the role of liver resection in gynaecologic malignancies [14-17]. Main studies included patients with liver metastases from breast cancer or ovarian cancer and a benefit in terms of survival was demonstrated [17,18]. When searching the effect of surgery on liver metastases originating from other gynaecologic malignancies only few cases are reported (ranging 1-7 cases per series) [19-21].

Chi et al. evaluated the role of liver resection in metastatic gynaecologic malignancies on a group of 12 patients, with a median age of 60 years. Only 2 of the 12 cases presented metachronous liver metastases originating from cervical cancer. The conclusions of this study was that hepatectomy can be performed safely and prolong survival [20].

In a study conducted by Rene Adam et al. 45 patients with both uterine and cervical tumors were included. The rate of isolated liver metastases reached almost 71%. Most patients introduced in this study presented metachronous liver metastases, which were diagnosed after a disease free survival of 48 months. The 5 year overall survival rate was 35%, the only prognostic factor statistically significant being an R0 resection [22].

Kamel et al. reported a series of 87 patients with liver metastases from gynaecologic cancer. Only 3 cases were diagnosed with liver metastases from cervical cancer and although liver resection was performed, they reported a poorer 5 year overall survival than the cases who underwent the same type of surgery for liver metastases from ovarian cancer [23]. In our case the presence of 3 isolated liver metastases measuring between 1 and 2 cm with a perfectly normal remnant liver encouraged us to perform the 2 metastasectomies too in order to obtain an R0 resection

Conclusion

Cervical cancer remains an aggressive disease with multiple ways of spread; surgery seems to be the only way to control this lethal disease. While the therapeutic protocol for lymph node metastases is well standardized, things are not so clear established for the treatment of liver metastases. The main responsible factor for this deficit is the rarity of hepatic metastases from cervical cancer, reported series comprising few patients. Complete resection seems to be the only significant prognostic factor, although poorer rates of survival were reported (when compared to other gynaecologic malignancies). However, further studies on larger lots of patients are still needed.

Conflict of interest

Authors have no conflict of interest to disclose.

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