Withholding Recognized Effective Adjuvant Anti-Neoplastic Chemotherapy in a Setting with Known Highly Active Treatment for Recurrent Disease: A Case Report

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Key Words

Female germ cell tumor · Adjuvant chemotherapy · Toxicity of chemotherapy · Cisplatin

Abstract

A young woman presenting with an ovarian immature teratoma (stage IA, grade 2) demonstrates the dilemma associated with the decision to withhold adjuvant chemotherapy of documented clinical utility in a setting where highly effective treatment is available should the cancer ultimately recur.

Introduction

It is well recognized that advances in the chemotherapeutic management of a number of cancers has resulted in highly meaningful improvement in survival, symptom control and overall quality-of-life for patients initially presenting with metastatic cancer or where there is recurrence of the malignant process following definitive local/regional therapy.

The demonstrated utility of such therapy has led to the rational suggestion that individuals presenting with *earlier stages of disease* (e.g., cancer surgically documented to be confined to a single organ), but who possess known unfavorable clinical features (e.g., high-grade malignancy) might simply be *observed*, rather than receiving ‘standard’ adjuvant chemotherapy, with anti-neoplastic drug treatment being initiated only if there is subsequent evidence of disease recurrence.

A recent patient seen in consultation highlights the dilemma that surrounds the decision to withhold adjuvant therapy in this specific clinical setting.

Case Report

A 19-year-old female developed sudden onset of left-sided pelvic pain. An emergency ultrasound revealed the presence of a left adnexal mass. At laparoscopic surgery performed by an experienced gynecologic surgeon, a 4-cm mass lesion was removed, with the remainder of the peritoneal cavity appearing normal. Pathology revealed an immature teratoma (grade 2). Washings revealed no evidence of cancer. This interpretation was confirmed by a reference gynecologic pathologist at a tertiary care institution. The patient and her family had obtained several opinions regarding the need for adjuvant chemotherapy in this setting, with opinions ranging from the absolute requirement to administer three cycles of cisplatin, etoposide, bleomycin, to the suggestion that it was reasonable at this point in time to carefully observe the patient without systemic treatment, and only initiate cytotoxic therapy (with cisplatin, etoposide, bleomycin) if there was evidence of disease recurrence.

Discussion

Female germ cell tumors, like their counterparts in males, are among the most chemotherapy-sensitive of all human malignancies [1]. Even in the setting of cancer spread throughout the peritoneal cavity the combination of aggressive surgical cytoreduction (designed to remove all gross macroscopic disease) followed by cisplatin-based chemotherapy is curative in most women found to have this cancer [1, 2].

The effectiveness of treatment in the advanced, metastatic, or recurrent disease settings, and the rational desire to avoid the risk of inducing infertility resulting from the administration of cytotoxic chemotherapy in a younger female population (most likely to develop this malignancy) prompt the logical and appropriate question of *observation* as a management strategy, rather than adjuvant chemotherapy in this setting [2].

However, it is well recognized that immature teratomas, like other non-dysgerminoma germ cell tumors, can be highly malignant and result in death, despite the overall effectiveness of treatment of advanced disease [1]. It is reasonable to argue that the administration of highly active chemotherapy in the adjuvant setting, where unrecognized microscopic cancer may be present, has the legitimate potential to substantially reduce, or even nearly eliminate the risk that recurrence will be experienced.

In the case under discussion while the presence of ‘grade 2 features’ clearly placed this patient in a somewhat unfavorable prognostic category, it is genuinely uncertain if the benefits of early treatment outweigh the risk of toxicity, particularly considering the known favorable impact of subsequent therapy (if necessary).

It is rational to conclude that the only satisfactory solution to the dilemma is full and very clear disclosure to the patient (and her family) regarding what is both known (e.g., effectiveness of chemotherapy in the metastatic and adjuvant settings; potential toxicities, both short-term and long-term) and uncertainties of the situation (e.g., absence of reliable data on the true magnitude of any increased risk associated with the strategy of observation rather than the administration of adjuvant treatment). Ultimately, after all available data have been presented, and questions have been asked and (to the fullest extent possible) answered by the oncologist, the patient (and her family) will need to make their own decision regarding what is the optimal management course.

References

- 1 Gershenson DM: Management of ovarian germ cell tumors. *J Clin Oncol* 2007;25:2938–2943.
- 2 Bonazzi C, Peccatori F, Colombo N, et al: Pure ovarian immature teratoma, a unique and curable disease: 10 years' experience of 32 prospectively treated patients. *Obstet Gynecol* 1994;84:598–604.