Who really benefits from intraperitoneal chemotherapy in advanced ovarian cancer? A treatment-free survival analysis

Libing Xiang[1], Yulian Chen[1], lina shen[1], Yi Guo[2], Rong Jiang[1], Wen Zhang[1], Huixun Jia[3], Zhenyu Wu[2], and Rongyu Zang[1]

[1]Zhongshan Hospital Fudan University
[2]Fudan University School of Public Health
[3]Shanghai General Hospital

April 29, 2022

Abstract

Objective: To investigate whether the extent of peritoneal disease may predict the survival benefit from IP/IV therapy. Design: A TFS analysis. Setting: Censored on August 27, 2020, the extended follow-up of AICE (Additional Intraperitoneal Cisplatin and Etoposide in ovarian cancer) trial. Population: Patients were categorized into the high tumor burden (HTB) and low tumor burden (LTB) subgroups. Methods: Overall survival (OS) was partitioned into time on protocol treatment exposure (T), time to subsequent treatment initiation or death (TFS), and time after first subsequent therapy or death (REL). TFS analyses and quality-adjusted OS were calculated by multiplying mean time in each health state by its assigned utility (Quality-adjusted OS =ut *T+TFS+urel *REL). Main Outcome Measures: The area under each Kaplan-Meier curve was estimated by the 96-month restricted mean time, with the threshold utility analyses illustrating the quality-adjusted OS comparisons. Results: In the HTB subgroup, restricted mean TFS was 33.9 months and 18.7 months in the IP/IV and IV groups, respectively (difference, 15.2 months; 95%CI, 4.6 to 25.7; P = .005), with a significant quality-adjusted OS gain (ranging from 13.2 to 16.0 months). In the LTB subgroup, there was no survival benefit from IP/IV therapy in either TFS (difference, 7.1 months; 95%CI, -5.5 to 19.8; P = .268) or quality-adjusted OS (ranging from 1.4 to 6.3 months). Conclusions: IP/IV therapy provided significantly longer TFS and quality-adjusted OS across all values of utility weights than standard IV therapy in the HTB subgroup, while patients did not benefit from it in the LTB subgroup.

Who really benefits from intraperitoneal chemotherapy in advanced ovarian cancer? A treatment-free survival analysis

Running title: Treatment-free survival analysis in the AICE trial

Libing Xiang, MD, PhD*; Yulian Chen, MD*; Lina Shen, MD*; Yi Guo; Rong Jiang; Wen Zhang; Huixun Jia, PhD, MPH; Zhenyu Wu, PhD; Rongyu Zang, MD, PhD

* Contributed equally

Ovarian Cancer Program, Department of Gynecologic Oncology, Zhongshan Hospital, Fudan University, Shanghai, China;

Department of Biostatistics, School of Public Health, Fudan University, Shanghai, China;

Clinical Statistics Center, Shanghai General Hospital, Shanghai Jiaotong University of Medicine, Shanghai, China.

The authors declare no potential conflicts of interest.

Corresponding to:

Rongyu Zang, MD, PhD,

Ovarian Cancer Program, Department of Gynecologic Oncology,

Zhongshan Hospital, Fudan University,

180 Fenglin Road, Shanghai 200032, China

Phone: 86 21 64041990; Fax: 86 21 6404 1990 ext 2801

zang.rongyu@zs-hospital.sh.cn

Hosted file

2022 Who really benefits from IP therapy in advanced ovarian cancer_BJOG_26April.docx available at https://authorea.com/users/479569/articles/567323-who-really-benefits-from-intraperitoneal-chemotherapy-in-advanced-ovarian-cancer-a-treatment-free-survival-analysis