

## **Supplementary Material**

### **1. Sample size calculation**

A study by Zhang et al. [1] reported that the 3-year OS of locally advanced nasopharyngeal carcinoma could reach 95% under the current treatment mode. In our study, the 3-year OS rate in the matched cohort was 96.5%, which is consistent with previous research results. To demonstrate non-inferiority, we estimate that the 3-year OS is the same between NCT+IMRT alone and NCT+CCRT in the treatment of patients with NPC. A non-inferiority margin of 10% was assigned, and this was considered clinically acceptable given the expected to reduced toxic effects in patients receiving NCT+IMRT alone. Referring to previous non-inferior studies on nasopharyngeal carcinoma [2], the upper limit of the 95% CI for the difference in 3-year OS between the two groups could not exceed 10%. With 80% power and a one-sided type I error of 5%, we needed 104 patients (69 in NCT+CCRT group and 35 in NCT+IMRT group). The results were roughly consistent with the number included of in subgroup of our study.

### **2. Quantification of plasma EBV DNA**

Plasma EBV-DNA samples were collected before neoadjuvant chemotherapy, and the copies was quantified by quantitative real-time polymerase chain reaction (PCR) assay. Briefly, DNA extraction from plasma samples was tested using the EBV viral nucleic acid amplification kit. A total of 450  $\mu$ L of each plasma sample was used for DNA extraction, and the amount was documented for the calculation of the target DNA concentration. The final elution volume of 60  $\mu$ L was used to elute the DNA from the extraction column. To measure circulating EBV DNA concentrations, a real-time qPCR system was used to amplify a DNA segment in the BamHI-W fragment region of the EBV genome. Data were collected using the Applied Biosystems 7500 Real-Time PCR Systems (Thermo Fisher Scientific, Waltham, MA).

## **References**

1. Zhang Y, Chen L, Hu GQ, Zhang N, Zhu XD, Yang KU, et al. Gemcitabine and cisplatin induction chemotherapy in nasopharyngeal carcinoma. *New Engl J Med.* 2019;381:1124-35.
2. Tang LL, Guo R, Zhang N, Deng B, Chen L, Cheng ZB, et al. Effect of radiotherapy alone vs radiotherapy with concurrent chemoradiotherapy on survival without disease relapse in patients with low-risk nasopharyngeal carcinoma: a randomized clinical trial. *JAMA.* 2022;328:728-36.