

## Supplementary materials

*Supplementary material 1. Search strategy.* Literature was identified from PubMed and Google Scholar. The following algorithm was used:

- i) (Gastrointestinal Stromal Tumors[MeSH Terms]) OR (Stromal Tumor, Gastrointestinal[Title/Abstract]) OR (Stromal Tumors, Gastrointestinal[Title/Abstract]) OR (Tumor, Gastrointestinal Stromal[Title/Abstract]) OR (Tumors, Gastrointestinal Stromal[Title/Abstract]) OR (Gastrointestinal Stromal Neoplasms[Title/Abstract]) OR (Neoplasm, Gastrointestinal Stromal[Title/Abstract]) OR (Neoplasms, Gastrointestinal Stromal[Title/Abstract]) OR (Stromal Neoplasm, Gastrointestinal[Title/Abstract]) OR (Stromal Neoplasms, Gastrointestinal[Title/Abstract]) OR (Gastrointestinal Stromal Tumor[Title/Abstract]) OR (Gastrointestinal Stromal Neoplasm[Title/Abstract]) OR (Gastrointestinal Stromal Sarcoma[Title/Abstract])
- ii) (Practice Guideline[Title/Abstract]) OR (Guideline[Title/Abstract]) OR (Consensus[Title/Abstract]) OR (Consensus Development[Title/Abstract]) OR (Development, Consensus[Title/Abstract])
- iii) (Armed Forces Institute of Pathology[Title/Abstract]) OR (AFIP[Title/Abstract]) OR (National Institutes of Health[Title/Abstract]) OR (NIH[Title/Abstract]) OR (International Union Against Cancer[Title/Abstract]) OR (UICC[Title/Abstract]) OR

(National Comprehensive Cancer Network[Title/Abstract]) OR (NCCN[Title/Abstract]) OR (World Health Organization[Title/Abstract]) OR (WHO[Title/Abstract])

iv) (i AND ii) OR (i AND iii)

*Supplementary material 2. Screening strategy.* Items involving RGIST and guidelines (or consensus) were searched in PubMed and Google Scholar through May 1, 2022. For UICC 2016 guidelines, obtained from the official release (TNM classification of malignant tumors; UICC 8th edition) or the official website ([uicc.org/](http://uicc.org/)) (1). For WHO 2020 guidelines, obtained from the official release (5th edition. World Health Organization G, pp439-443: Gastrointestinal stromal tumor.) or the official website ([who.int/](http://who.int/)) (2). For NCCN 2022 guidelines, obtain from the official website ([nccn.org/guidelines/guidelines-detail?category=1&id=1507](http://nccn.org/guidelines/guidelines-detail?category=1&id=1507)) (3). There is currently no standard evaluation tool developed by evidence-based medicine to screen guidelines, because the revision and update of guidelines are based on a large number of high-quality clinical studies. Therefore, our selection (inclusion criteria) was these mainstream original international guidelines. Those duplicated RGIST risk assessment systems and guidelines derived from the mainstream guidelines, such as the Asian guidelines consensus (based on NIH 2008 guidelines) (4), the Spanish Group for Sarcoma Research guidelines (based on AFIP 2006 guidelines) (5), etc., were all excluded. Two authors retrieved papers independently and disagreements were resolved by the remaining co-authors.

## References

1. Brierley JD, Gospodarowicz MK and Wittekind C: International union against cancer (UICC). TNM classification of malignant tumours. 8th edition. UICC, Wiley Blackwell, New York, pp127-130, 2016.
2. Dei Tos A, Hornick J, Miettinen M, Wanless I, Wardelmann E, Goldblum JR, Miettinen M and Lazar AJ: World Health Organization (WHO): Gastrointestinal stromal tumour. 5th edition. pp439-443, 2019.
3. National Comprehensive Cancer Network guidelines: NCCN Guidelines Version 1: 2022 Gastrointestinal Stromal Tumors (GISTs). <https://www.nccn.org/guidelines/guidelines-detail?category=1&id=1507>. Accessed August 25, 2022.
4. Koo DH, Ryu MH, Kim KM, Yang HK, Sawaki A, Hirota S, Zheng J, Zhang B, Tzen CY, Yeh CN, *et al*: Asian consensus guidelines for the diagnosis and management of gastrointestinal stromal tumor. *Cancer Res Treat* 48: 1155-1166, 2016.
5. Poveda A, Martinez V, Serrano C, Sevilla I, Lecumberri MJ, de Beveridge RD, Estival A, Vicente D, Rubió J and Martin-Broto J: SEOM clinical guideline for gastrointestinal sarcomas (GIST) (2016). *Clin Transl Oncol* 18: 1221-1228, 2016.
6. Miettinen M and Lasota J: Gastrointestinal stromal tumors: Review on morphology, molecular pathology, prognosis, and differential diagnosis. *Arch Pathol Lab Med* 130: 1466-1478, 2006.