

**Title:** UNPLANNED EXCISION OF EXTREMITY SOFT-TISSUE SARCOMA IN KOREA: A NATIONWIDE STUDY BASED ON A CLAIMS REGISTRY

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**Abstract**

**Purpose**

Unplanned excision of a soft tissue sarcoma (STS) is defined as the operation performed for the gross removal of an STS without regard for preoperative imaging or the necessity to remove a margin of normal tissue covering the cancer. In cases of unplanned excision, it is generally assumed that re-excision with a wide margin of the normal surrounding tissues is required to treat gross or microscopic tumors; this may necessitate multiple mutilating surgeries and prolonged hospital stay. Thus, unplanned excision has a detrimental effect not only on patients' oncologic outcomes but also on functional and economic issues. Estimating the burden of unplanned excision of STS is necessary to understand its impact on public health. However, studies on unplanned excision of STS involve hospital-based settings, and no study has been performed on a nationwide population-based database. South Korea operates a mandatory nationwide healthcare system with a centralized healthcare claims database: the Korean Health Insurance Review and Assessment Service (HIRA) database. The HIRA database contains all medical and prescription drug claim records of the entire South Korean population and provides a unique nationwide information source on healthcare resource utilization.

**Patients and Methods**

In this study, we utilized the HIRA database to estimate the incidence and treatment patterns of unplanned excision in extremity STS in the Korean population.

**Results**

Among 1,517 patients with extremity STS in the 4-year study period, 553 (36.5%) underwent unplanned

excision (unplanned group) (Fig 2). Close to 82% of unplanned excisions were performed in tertiary or general hospitals. Of the 553 patients in the unplanned group, 240 (43.4%) underwent re-excision, 35% of whom ( $n = 84$ ) had radiation therapy and/or chemotherapy with re-excision. Moreover, 51 (9.2%) were treated with radiation therapy and/or chemotherapy without surgery. Furthermore, 47% ( $n = 262$ ) did not undergo any further treatment following unplanned excision.

### **Conclusion**

This study is the first nationwide population-based study on the unplanned excision of extremity STS. The results provide insight into the incidence and treatment patterns of unplanned excision of extremity STS in Korea. The results may have implications in establishing preventive or therapeutic measures to reduce the burden of unplanned excision of extremity STS.