Retrospective Analysis of 498 Primary Soft Tissue Sarcomas in a Single Turkish Centre

Berna Bozkurt Duman1*, Meral Gunaldı1, Vehbi Ercolak1, Cigdem Usul Afsar1, Berkoşy Sahin1, I Melek Koksal Erkisi1, Oguz Kara1, Semra Paydas1, Gülfiliz Gönlüsen2, Yaşar Sertdemir3

Abstract

Background: Soft tissue sarcomas (STS) must be managed with a team involving pathologists, radiologists, surgeons, radiation therapists and medical oncologists. Treatment modalities and demographic characteristics of Turkish STS were analysed in the current study. Material-Methods: Primary adult STS followed between 1999-2010 in Cukurova University Medical Faculty Department of Medical Oncology were analysed retrospectively. Results: Of the total of 498 patients, 238 were male and 260 female. The most seen adult sarcomas were leiomyosarcoma (23%). Localization of disease was upper extremity (8.8%), lower extremity (24.7%), head-neck (8.2%), thoracic (8%), retroperitoneal (5.6%), uterine (12.4%), abdominal (10%), pelvic region (3.6) and other regions (10%). Some 13.1% were early stage, 10.2% locally advanced, 8.2% metastatic and 12.2% recurrent disease. Patients were treated with neoadjuvant/adjuvant (12%) or palliative chemotherapy (7.2%) and 11.4% patients did not receive chemotherapy. Surgery was performed as radical or conservative. The most preferred regimen was MAID combination chemotherapy in the rate of 17.6%. The most common metastatic site was lung (18.1%). The overall survival was 45 months (95% CI 30-59), 36 months in men and 55 months in women, with no statistically significant difference (p=0.5). The survival rates were not different between the group of adjuvant and palliative chemotherapy (respectively 28 versus 18 months) (p=0.06), but radical surgery at 37 months was better than 22 months for conservative surgery (p=0.0001). No differences were evident for localization (p=0.152). Locally advanced group had higher overall survival rates (72 months) than other stages (p=0.0001). Conclusion: STS can be treated successfully with surgery, chemotherapy and radiotherapy. The survival rates of Turkish people were higher in locally advanced group; these results show the importance of multimodality treatment approach and radical surgery.

Keywords: Soft tissue sarcoma - surgery - chemotherapy - radiotherapy - Turkey

Asian Pacific J Cancer Prev, 13, 4125-4128

Introduction

Sarcomas are a rare and heterogeneous group of malignant tumors of mesenchymal origin that comprise approximately 1 percent of all adult malignancies (Fletcher, 2002). Approximately 80 percent of sarcomas originate from soft tissue and the rest from bone. There are about 11,280 new cases of soft tissue sarcoma diagnosed each year in the United States, with 3900 deaths (Siegel, 2012).

More than 50 different histologic subtypes have been identified. The most common subtypes of STS are pleomorphic sarcoma (also known as malignant fibrous histiocytoma (MFH), liposarcoma, leiomyosarcoma, synovial sarcoma, malignant peripheral neve sheat tumors (Coindre et al., 2001). Extremities (60%), the trunk (19%), retroperitoneum (15%) or head and neck (9%) are the most common primary sites. The most common site of metastasis is the lungs, and metastasis generally occurs within two to three years after the completion of therapy. (Cormier, 2004).

All patients should be managed by multidisciplinary team with expertise in STS (Clasby, 1997). We analysed 498 patients with STS retrospectively in this current study.

Materials and Methods

Enrollment was limited to patients with histologically confirmed, STS (excluding gastrointestinal stromal tumor, Kaposi Sarcom, malignant mixed Mullerian tumor) that were followed up between 1999 and 2010 in Cukurova University Department of Medical Oncology. Patients associated parameters age, sex, tumor localization, histopathologic subtypes, grade, stage (divided as local, locally advanced, metastatic, recurrent disease) were analysed. Treatment modalities were analysed. The patients were put into groups that treated with chemotherapy, radiation therapy, and combination therapy.

1Department of Oncology, 2Department of Pathology, 3Department of Bioistatistics, Medical Faculty, Cukurova University *For correspondence: berboz@hotmail.com

DOI: http://dx.doi.org/10.7314/APJCP.2012.13.8.4125

Retrospective Analysis of Soft Tissue Sarcomas in a Single Turkish Centre
Surgical treatment modalities were put into groups as palliative, radical and local surgery. Disease free survival and overall survival rates were analysed. A total of 498 patients were analysed 32 patients were excluded because of incomplete data. A total of 466 patients were included to the study.

Results

Retrospectively analyzed 498 patients with primary soft tissue sarcoma. Broad age distribution but mean age was 47.2±17.4 (14-87) for STS in Turkey. Age distribution in patients with sarcomas originating from different sites of the body indicates that the peak age was between 50-55 years (Figure 1). Patients with malignant fibrous histiocytom/Fibrosarcoma and liposarcoma are older, patients with Ewing, alveolar part and desmoid sarcomas are younger (Figure 2). Gender data shows a female predominence(1/1.1) with a small difference (47% vs 52%). The most seen adult sarcomas were leomyosarcoma in the rate of (23%). Leiomyosarcoma and liposarcoma contitutes 1/3 of all STS (23%+12%). Localization of disease was upper extremity (8.8%), lower extremity (24.7%), head-neck 8.2%, thoracic 8%, retroperitoneal 5.6%, uterin 12.4%, abdominal 10%, pelvic region 3.6 and the other regions 10%. STS predominantly were located in extremities (28% in lower, 10% in upper) and uterine (14%) regions. Lower extremity is the most common involved region for primary STS in TR (28%) and uterine sarcoma is the 2. most common STS histopathology, the most common subtypes (±54%) Leiomyosarcoma (23%), Liposarcoma (12.2%), Chondrosarcoma (10.2%), Fibrosarcoma (9.4%). Patients were divided into four groups as early stage (localized), locally advanced, metastatic and recurrent disease. In the rate of 13.1% early stage, 10.2% locally advanced, 8.2% metastatic and 12.2% recurrent disease. Of 78% has no metastasis. In 25% metastatic site is lung (alone 18.1%) and liver follows lung with 11% frequency. Patients were treated with neoadjuvant/adjuvant (12%), palliative chemotherapy (7.2%) and 11.4% patients did not receive chemotherapy. Radiation therapy was given to the patients in the rate of 5% as curative and in the rate of 3.6% as palliative. Surgery was performed as radical or conservative. The most preffered regimen was MAID combination chemotherapy in the rate of 17.6%. In the rate of 60% received any chemotherapy of which almost all were combination regimens. 46.4% of the patient took an antracyline combination and MAID was the most common regimen (17.6%). Almost 70% of the 72 patients could not receive any chemotherapy following first line. Gemcitabine, taxan, or platins were the most common agents selected for the second line treatments, 5.6%, 8.4% and 16.7% respectively.

The overall survival was 45 months (95%CI 30-59). The overall survival rate was 36 months in men and 55 months in women, statistically difference was not found (p=0.5). Patients with extremity and uterine sarcoma seem living longer but statistically significant different was not found (p=0.07) (Figure 3). The overall survival rates of patients treated with radical surgery 37 months and 22
Discussion

In our study the prevalence was same as first subtype leiomyosarcoma (23%), but the other common types were Liposarcoma (12.2%), Chondrosarcoma (10.2%), Fibrosarcoma (9.4%) Alkis et al. reported the common subtype was liposarcoma in the rate of 16.3% and respectively malignant mesenchimal tumor (not classified) 13.9%, malignant fibrous histioyctoma 11.2%, synovial sarcoma and rhabdomyosarcoma 10.2% from Turkey.

The most common site for metastasis is lung. Visceral and retroperitoneal sarcomas show propensity to metastasize to liver and peritoneum (Alkis et al., 2011). In our study the most common site for metastasis lung and than liver.

Soft tissue sarcomas occur at all anatomic body sites, but the majority are in the extremities. The anatomic distribution of soft tissue sarcomas in 4,550 adults reviewed by the American College of Surgery was as follows Thigh, buttock, and groin 46%, Upper extremity 13% percent, Torso 18%, Retroperitoneum 13%, Head and neck 9% (Lawrence et al., 1987). Some histologic types of soft tissue sarcoma have a predilection for certain anatomic sites. As an example, while only 14 percent of all soft tissue sarcomas present in the upper extremity, 40-50 percent of all epithelioid sarcomas arise on the forearm and finger (Baratti et al., 2007; Sakharpe et al., 2011). Common localizations were extremities and uterine in our study.
types of advanced or metastatic STS. Imatinib, Sunitinib, sorafenib shown efficacy in patients with advanced and/or metastatic STS (Maki et al., 2009; Stacchiotti et al., 2012a; 2012b). Pazopanib, a multitargeted tyrosine kinase inhibitor has demonstrated single-agent activity in patients with advanced STS subtypes except liposarcomas (Sleijfer et al., 2009). Crizotinib and Sirolimus has shown promising results in specific subgroups of STS (Bissler et al., 2008; Butynski et al., 2010). Drugs like trabectedin, TK-inhibitors or m-TOR inhibitors are not commonly used in TR. But these will be preferable agents in the future.

In conclusion, this retrospective study, A rare cancer also in TR. Annual incidence was less than 1.9/100 thousand without a significant difference between regions of TR. Frequency peaked at age 40-55 years with a small female predominence. Common localizations were extremities and uterine. Leiomyosarcomas and liposarcomas were more common subtype. Majority of the patients had no metastasis but locally advanced or recurrent disease.

Most of the patients were diagnosed at advanced stages due to probably non-specific and unexperienced physicians. Most of the patients were treated in multimodality. Most of the patients (90%) were treated with surgery, many of them received chemo therapy (62%) but limited number of thepatients could receive RT. One-third adjuvant, one-fourth palliative and 3% received neoadjuvant chemotherapy. Of the 60% took a combination including mostly an antracyline, 70% could not receive a 2nd line treatment. Gemcitabine, taxans and platins were commonly preferred drugs in 2nd line treatment. Platins, taxan, or gemcitabine were the most common agents selected for the second line treatments, 16.7%, 8.4% and 5.6% respectively

Soft tissue sarcomas are ubiquitous in their site of origin, and are often treated with multimodality treatment. A multidisciplinary approach is therefore mandatory in all cases (involving pathologists, radiologists, surgeons, radiation therapists, medical oncologists and paediatric oncologists if applicable). This should be carried out in reference centres for sarcomas and/or within reference networks sharing multidisciplinary expertise and treating a high number of patients annually.

STS can be treated successfully with surgery, chemotherapy and radiotherapy. The survival rates of Turkish people were higher in locally advanced group; these results show the importance of multimodality treatment approach and radical surgery.

References


