Mesenchymal Chondrosarcoma

Single Center Study Of Oncologic Outcomes And The Effect Of Adjuvant Treatment

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Background

Mesenchymal chondrosarcoma

- A rare high-grade variant
- Associated with poorer oncologic outcomes
- Effectiveness of adjuvant therapies has not been clearly proven [1–3,5,6]

Methods and Materials

- Retrospective series. Pts from 1974-2019
- 23 of 694 (3.3%) chondrosarcoma cases during this period
- 20 with >1y fu included for survival analysis
- 13 presented with extra skeletal disease
- 3 pts with HEY1-NCOA2 fusion gene [4]
- Median fu :4.2 years (Range 1.1-24.6y).
- 11 of 20 pts underwent chemotherapy (CTX); 7 Adriamycin-based
- 11 of 20 patients underwent radiation (RT); 9 had extra-skeletal disease.
- 15 pts who presented with localized disease were analyzed separately

Results

- OS rate: 48.0% at 5y , 30.0% at 10y. Median: 4.5y. (Fig. 2a)
- Metastatic disease and tumors staged AJCC stage T2 or above associated with poorer survival (Fig. 1)
- Trend of better survival in patients who received CTX (p=0.051) (Fig. 2b).
- In patients with localized disease on presentation, the OS was 54.5% at 5 yrs and 39.0% at 10 yrs.
- 5-year OS: 72.9% in the CTX group & 37.5% in the non-CTX group (Fig 3b)
- HR of mortality of 0.20 (95% CI: 0.041-0.962) in pts who received CTX (p= 0.045)
- No other factors had sig. associations with OS

Factor assessed	p value
Local recurrence	0.996
Presence of metastasis	**0.000765**
Metastatic disease on presentation	0.264
Age <30	0.986
Gender	0.158
Axial disease	0.142
Extra skeletal disease	0.599
Use of chemotherapy	0.051
Use of radiotherapy	0.978
Surgery performed	0.39
Surgical margins negative	0.442
Tumor Stage AJCC ≥T2	**0.0175**

Figure 1: Factors assessed for effect on OS by log rank test

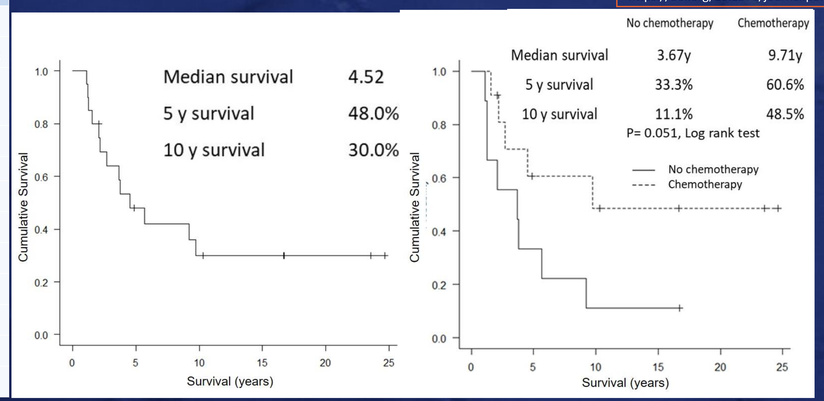

Figure 2. Kaplan–Meier curve of overall survival of (a) whole study population and (b) comparing patient subgroups who did and did not receive chemotherapy

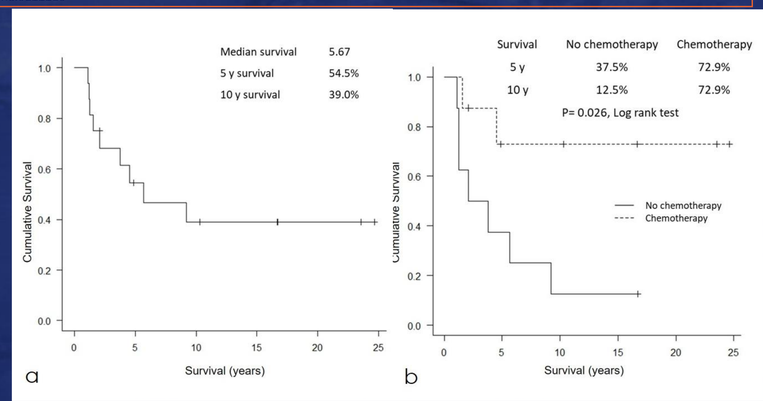

Figure 3: Kaplan–Meier curve of overall survival in patients with localized disease on presentation of (a) as a group and (b) comparing patient subgroups who did and did not receive chemotherapy

Discussion

- Our study: Similar survival rates to those published
  - 51-70% for five yrs and 15-56% at 10 yrs [1, 5–8]
- Survival benefit of CTX in pts presenting with localized disease; 5X higher chance of mortality in non-CTX pts
  - Similar to some studies [5, 6], but not to others [1, 8]
- Limitations: Study size, different CTX regimens
- This study supports the use of adjuvant chemotherapy in patients with mesenchymal chondrosarcoma presenting with localized disease.

References

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