

Perbandingan luaran pasca limb salvage surgery dan amputasi pada pasien osteosarkoma periode 1995-2014 di Rumah Sakit Cipto Mangunkusumo = Outcome comparison between limb salvage surgery and amputation for osteosarcoma patients during 1995-2014 period in Cipto Mangunkusumo Hospital / Heru Widyawarman

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Abstrak

[<b>ABSTRAK</b><br>

Pendahuluan Osteosarkoma adalah tumor ganas tulang paling sering ditemukan di RS Cipto Mangunkusumo (RSCM). Penatalaksanaan osteosarkoma dengan limb-salvage surgery (LSS) makin berkembang disamping tindakan amputasi. Penelitian ini bertujuan untuk mengetahui perbandingan luaran hasil LSS dan amputasi pada pasien osteosarkoma di RSCM.

Metode Studi ini menggunakan desain kohort retrospektif pada pasien osteosarkoma periode tahun 1995-2014 di RSCM. Dilakukan evaluasi angka kesintasan, rekurensi lokal, metastasis, komplikasi, skor fungsional menurut Musculoskeletal Tumor Society Scoring system (MSTS) pada pasien yang dilakukan LSS dan amputasi. Metode Kaplan-Meier digunakan untuk mendeskripsikan kesintasan, sintasan bebas rekurensi lokal antara LSS dan amputasi. Hubungan karakteristik pasien dianalisis dengan uji log rank. Uji Kai kuadrat, Eksak Fischer dan Mann-Whitney U digunakan untuk menganalisis hubungan antara skor MSTS dan karakteristik pasien, angka rekurensi, metastasis serta komplikasi. Untuk melihat pengaruh katakteristik terhadap sintasan dilakukan analisis regresi Cox dan uji Wald serta analisis multivariat backward stepwise.

Temuan Penelitian dan Diskusi Kesintasan 5 tahun pasien osteosarkoma 14,6%. Kesintasan 5 tahun LSS 34,8%, kesintasan 5 tahun amputasi 15,9%. Kesintasan bebas rekurensi lokal 5 tahun untuk LSS 96,2% dan untuk amputasi 86,5%. Kesintasan dipengaruhi metastasis, tipe operasi dan ukuran tumor. Metastasis merupakan faktor paling berpengaruh berdasarkan analisis multivariat. Metastasis terbanyak ditemukan di paru. Gejala awal dan staging Enneking mempengaruhi metastasis ( $p=0,02$  dan  $0,007$ ). Infeksi adalah komplikasi tersering. Tipe biopsi FNAB memberi komplikasi yang paling sedikit. LSS memberi skor fungsional yang lebih tinggi (83,3%) daripada amputasi (61,7%). Pasien dengan rekurensi lokal cenderung mempunyai skor fungsional buruk ( $p=0,023$ ).

Kesimpulan Kesintasan paling tinggi pada pasien osteosarkoma RSCM yang dilakukan LSS. Luaran fungsional dengan skor MSTS baik (83,3%) didapatkan pada pasien yang dilakukan LSS dan bebas rekurensi lokal. Skor MSTS buruk dijumpai pada pasien amputasi dengan rekurensi lokal, komplikasi dan metastasis.

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<b>ABSTRACT</b><br>

Introduction Osteosarcoma is the most common malignant bone tumor seen in Cipto Mangunkusumo Hospital (CMH). Treatment for osteosarcoma includes limb-salvage surgery (LSS), and it is increasingly more frequently performed compared to amputation. This study aims to analyze the outcome of LSS compared to amputation for osteosarcoma patients in CMH.

**Methods** This is a retrospective cohort study to review osteosarcoma patients during 1995-2014 period in CMH. Analysis was performed on survival rate, local recurrence, metastasis, complication, and functional score according to Musculoskeletal Tumor Scoring System (MSTS) for patients underwent LSS or amputation. Kaplan-Meier method was used to determine survival rate, and disease-free survival rate between LSS and amputation. Log-rank analysis was used to determine relationship between patients characteristic. Chi-Square, Exact-Fischer, and Mann-Whitney U tests were used to analyze the correlation between MSTS score and patient characteristics, rate of recurrence, metastasis, and complication. To determine the influence of patient characteristics to survival, Cox regression analysis, Wald Test and backward stepwise multivariate analysis were performed.

**Results and discussion** 5-year survival rate osteosarcoma patients was 14.6%, 5-year survival rate for LSS was 34.8% compared to 15.9% for amputation. Disease-free survival for LSS was 96,2%, while amputation was 86,5%. Survival were influenced by metastasis, type of surgical intervention, and tumor size. According to multivariate analysis, survival was most influenced by metastasis. Metastasis were found predominantly in lungs. Initial symptoms and Enneking stage were correlated to metastasis ( $p=0.02$  and  $0.007$ , respectively). Infection was the most common complication. FNAB gave the least complication compared to other types of biopsy. LSS gave the highest functional score (83.3%) compared to amputation (61.7%). Patients with local recurrence tend to have poor functional score ( $p=0.023$ ).

**Conclusion** The highest survival rate for osteosarcoma patients in CMH was found on patients who underwent LSS. Good functional outcome according to MSTS score (83.3%) were found on patients who underwent LSS and free of local recurrence. Poor MSTS score were seen on patients undergone amputation, patients who had had local recurrence, complication and metastasis, Introduction Osteosarcoma is the most common malignant bone tumor seen in Cipto Mangunkusumo Hospital (CMH). Treatment for osteosarcoma includes limb-salvage surgery (LSS), and it is increasingly more frequently performed compared to amputation. This study aims to analyze the outcome of LSS compared to amputation for osteosarcoma patients in CMH.

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