

Factor affecting the cost of autologous stem cell transplant from government hospital prespective

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ABSTRACT

Introduction: Autologous stem cell transplantation (ASCT) is an effective treatment modality for blood cancers. Despite being a potential curative option for blood cancers, the economic burden of ASCT in Malaysia is presumed to be high, contributing to limitation in the number of procedures offered. Studying the breakdown of cost involved is the primary step to determine expenditure reduction strategies. Hence, this study aimed to investigate the cost of ASCT procedure from the perspective of the Ministry of Health (MOH), Malaysia. **Materials and Methods:** A retrospective study was conducted in Ampang Hospital, which is the main centre for ASCT. Medical records were reviewed, and the cost of laboratory tests, chemotherapy regimen, medications, and hospitalization were determined. Labour costs were determined based on the lowest salary tier of physician, pharmacist and nurses. The total cost for ASCT and each component involved in ASCT were determined. **Results:** The mean of total cost of ASCT per patient was RM21,685 ± standard deviation, SD RM5,968. The highest mean expenditure in a ASCT procedure was for medication (RM15,730.20), contributing to 72.5% of the overall ASCT cost. This was followed by hospitalization (RM3,198.00), laboratory (RM1,406.30) and labour cost (RM1,351.90). Medication for complications such as oral mucositis ($p=0.001$) and sepsis ($p=0.012$) contributed to the highest cost. **Conclusion:** ASCT pose a significant cost to the treatment of blood cancers. The cost of medication was the highest contributor to the overall ASCT cost, emphasizing the importance of judicious use of medication. This data highlights potential areas for cost savings in ASCT from the MOH Malaysia perspective. One such area is the potential use of generic medication to reduce this costly, but potentially curative procedure, in order to benefit more patients. Furthermore, this study of economic burden in ASCT potentially provide policy makers with information on how to better strategize resource allocation.