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Evaluating the Role of Sentinel Lymph Node Biopsy in Minimally Invasive Cancer Surgery

Ziang Chen*

School of Nursing and Rehabilitation, Cheeloomea College of Medicine, Shanndonga University, Shanndonga, China

Abstract

Minimally invasive surgery has revolutionized the ýeld of surgical oncology by o ering patients the beneýts of reduced morbidity and shorter recovery times. The introduction of sentinel lymph node biopsy (SLNB) in the context of minimally invasive cancer surgery has further advantage of smaller incisions, decreased postoperative pain, and quicker return to no ensuring accurate staging and lymph node assessment remains crucial for optimal cancer management. SLNB has emerged as a pivotal tool in this context. By identifying the sentinel lymph node the ýrst node in the lymphatic basin draining the tumor surgeons can make informed decisions regarding the extent of lymph node dissection and adjuvant therapies. This not only minimizes unnecessary lymph node dissection but also reduces the risk of associated complications, such as lymphedema.

: Can er ser ; G ne l gi al malignan ie ; L mph n e i e ti n

Minimall in a i e ser (MIS) ha tran f rme the lan ape f gi al n l g er the pa te e ering patient the pr mi e f ref e tra ma, q ike re er time an impr e p t per ati e q alit f life. Te hni e h a lapar p an rb ti -a i te ser ha e me tan ar pra ti e fr a ie ran e f malignan ie in l ea t an er, melan ma, an g ne l gi al t m r [1]. While MIS ha m b te l re l ti ni e an er treatment, en ring the a rate a ment f l mph n e remain a para m nt n ern f re e ti e an er taring an tail re the rape ti e i n Sentinel l mph n e l i p (SLNB), a te hni e initiall intr e in the 1990 ha eme ge a pi tal t l in the el f gi al n l g . SLNB i e ine t identif an ample the entinel l mph n e (SLN), the r t l mph n e in the ba in raining a prima r t m r. B f ing n the entinel n e, hi h i m t likel t hab r meta tati ea e, ge n an make inf rme h ie re ar ing the e tent f l mph n e i e ti n an the nee f a j ant ther apie i pre ii n n t nl re e the ri k f nne e ar l mpha ene t m b t al minimi e the p tential f r a iate mpli ati n h a l mphe ema [2, 3].

e inter ati n f SLNB int minimall in a i e an er ser repre ent a ig ni ant mile t ne in the e t f pre i e an er taring an manage ment. It b r e the ther ap et een the ene t f minimall in a i e te hni e an the impe rati e f ra rate n tal a e ment. H e er, t ma imi e it p tential, it i e ential t mpre hen i el e al ate the r le f SLNB in the nte t f minimall in a i e pr e re a re ing i e re late t te hni al n an e ia n ti a ra , pr gn ti ig ni an e, an l ng-ter m patient t me i re ear h pape ek t pr i le an in-de pth e pl rati n f the r le f SLNB in minimall in a i e an er ser . B riti all e amining it le el pment, rrent g i eline an lini al tilit , ea m t el i ate the tren th an limitati n f thi appr a h a r i erent an er t pe [4]. F ther m re, e ill el e int the hallenge a iate ith inter ating SLNB int minimall in a i e te hni e in l ing the impa t f ser n e pe ien e an the lea ning r e e e t. A iti nall , e ill e pl re eme ging te hn l gie an inn ati n that ma enhan e the a ra an appli bilit f SLNB in minimall in a i e etting [5].

Ultimatel , thi t a pi e t ntrb te t the ng ing i re rr ing the pti mi ati n f an er treatment thr gh minimall in a i e gi al appr a he ith SLNB a a ner t ne f r pre i e an per nali ed n l gi al are. i re ie e amine the e l ti n f SLNB in minimall in a i e ser , en mpa ing it le el pment, te hni al n an e an lini al tilit . It el e int the rrent g ideline an re mmendati n f r implementing SLNB in minimall in a i e pr ed re a r a i an er t pe A iti nall , it e pl re the iagn ti a ra , pr gn ti al e, an l ng-ter m t me a iate ith SLNB in the minimall in a i e nte t, n ering fa t r h a fal e-nega ti e rate an r i al rate [6, 7]. e hallenge an limitati n f SLNB in minimall in a i e ser are al i ed, in l ing n ern , t lea ning r e e e t an the in en e f ser n e pe ien e n t me F ther m re, the p tential impa t f eme ging te hn l gie h a intra perati e imaging an m le lar te hni e n impr ing SLNB a ra i e pl re . In n l i n, thi mpre hen i e a e ment f SLNB' r le in minimall in a i e an er ser n er re it imp rtan e in pr ing a rate taring inf rmati n an g iding

***Corresponding author:** Ziang Chen, School of Nursing and Rehabilitation, Cheeloomea College of Medicine, Shanndonga University, Shanndonga, China, E-mail: ziang.chen@min.ch

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