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乳腺癌前哨淋巴结活检术中保留肋间臂神经的可行性

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[摘　要]　**目的：**探讨乳腺癌前哨淋巴结活检术(sentinel lymph node biopsy，SLNB)中保留肋间臂神经(intercostobrachial nerve，ICBN)的可行性。**方法：**回顾性分析乳腺癌前哨淋巴结活检术患者184例，其中50例行保留ICBN的SLBN，134例行切除ICBN的SLBN。比较两组的手术时间、出血量、清扫淋巴结数目及术后切口合并症；记录SLNB后术侧上臂和腋窝疼痛及感觉异常情况及转归。**结果：**保留ICBN组与非保留组比较，手术时间、出血量、淋巴结清扫数目及术后切口合并症比较差异无统计学意义。保留组及非保留组术侧上臂、腋窝的疼痛及感觉情况发生率近3天差异无统计学意义。而腋窝及上臂内侧区皮肤感觉异常术后0.5~3个月比较差异有统计学意义，且术后3个月非保留组的患侧腋窝及上臂内侧区皮肤感觉异常的缓解率较差，差异有统计学意义。**结论：**乳腺癌SLNB中保留ICBN的术式不增加手术难度，可减少患者术后术侧腋窝及上臂疼痛、感觉异常的发生率，能保持患者术后高质量的生活，保留ICBN的乳腺癌SLNB是安全可行的。

[关键词]　乳腺癌；前哨淋巴结活检术；肋间臂神经

Feasibility of preserving brachial nerve in sentinel lymph node biopsy of breast cancer

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Abstract　**Objective:** To investigate the feasibility of preserving the intercostal nerve (ICBN) in sentinel lymph node biopsy (SLNB) of breast cancer. **Methods:** A retrospective analysis of 184 patients with breast cancer sentinel lymph node biopsy was performed. ICBN was performed in all the patients, and 134 patients underwent sentinel lymph node biopsy (ICBN). The operation time, blood loss, number of lymph nodes and postoperative complications were compared between the two groups, and the skin paresthesia, pain and prognosis of the patients with axillary and medial upper arm were observed. **Results:** There was no significant difference in operation time, blood loss, number of lymph node dissection and postoperative complications between the ICBN group and the control group. There was no statistically significant difference in the incidence of abnormal sensation in the armpit and upper arm in 3 days after operation. While the upper medial arm and axilla skin paresthesia after 0.5–3 months had significant difference, preserve the ipsilateral upper medial arm and axilla skin paresthesia group lower rates of

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remission 3 months after operation and ICNB, the difference was statistically significant. **Conclusion:** SLNB of ICBN preservation in breast cancer does not increase the difficulty of operation. It can reduce patient's postoperative side arm paresthesia and the incidence of pain, can improve the quality of life of patients after operation, SLNB of ICBN preservation in breast cancer is safe and feasible.

Keywords breast neoplasm; sentinel lymph node biopsy; intercostobrachial nerve

早期乳腺癌最重要的预后因素之一是腋窝淋巴结状态[1]。腋窝淋巴结一般是乳腺癌发生转移的第一站淋巴结，即前哨淋巴结(sentinel lymph node，SLN)。极少数为内乳前哨淋巴结(internal mammary sentinel lymph node，IM-SLN)[2]。目前，SLN检测主要采用放射性同位素和蓝色染料双法，而吲哚菁绿荧光、超声微泡和超顺磁性氧化铁纳米粒子等3种方法能进一步降低假阴性结果[3]。双法中的同位素辐射剂量极低，仪器检测辐射暴露都是在规定范围内的，包括孕妇[4]。SLN连续切片有助于提高SLN转移的检测率及肿瘤分期率相[5-7]。乳腺癌前哨淋巴结活检术(sentinel lymph node biopsy，SLNB)因灵敏度和特异度较高、损伤小、能保持患者术后的高质量生活而应用广泛长久[8]。早期乳腺癌患者SLNB的费用国内外均比腋窝淋巴结清扫术(axillary lymph node dissection，ALND)便宜许多[9]。更重要的是，低廉的SLNB不仅能评估乳腺癌细胞的淋巴转移，代替ALND作为临床分期阴性乳腺癌的常规分期手术[10]，而且对于乳腺肿瘤≤3 cm，前哨淋巴结(sentinel lymphnode，SLN)阳性<3个，SLNB联合保乳手术可取代ALND而成为早期乳腺癌的标准治疗模式[11-12]。进一步预防了ALND术后上肢淋巴水肿、上肢外展受限及上肢麻木等术后并发症[13]。中国SLNB多中心研究[14]也发现：乳腺癌患者SLNB与ALND相比，术后并发症明显减少。SLNB不仅比ALND创伤小、术后上肢并发症少，更重要的是没有影响患者总生存期，未出现乳腺癌相关不良事件[15-18]。SLNB不仅是新辅助化疗(neoadjuvant chemotherapy，NAC)前最可靠的诊断方法[19]，新辅助化疗之后SLNB的假阴性率也属于接受范围之内[20-21]。SLNB对于≥70岁的高龄乳腺癌患者也是一项较为安全的操作[22-23]，而且可以减少老年患者不必要的腋窝淋巴结清扫的风险，有效降低并发症发生率[24-25]。综上所述，SLNB是一种安全、可靠的手术方式，但乳腺癌治疗后5~7年的持续疼痛仍然是一个重要的问题，疼痛的危险因素主要是ALND，也有一部分是SLNB引起[26]。与ALND一样，SLNB同样是未保留肋间臂神经(intercostobrachial nerve，ICBN)，致使部分术后患者术侧腋窝及上臂感觉异常并疼痛。本研究回顾性分析常规SLNB和保留ICBN的SLNB手术可行性及术后感觉障碍情况，现报告如下。

1 资料与方法

1.1 一般资料

选取作者2016年在北大肿瘤医院乳腺中心进修期间，2016年8月至2017年1月北大肿瘤医院收治的184例乳腺癌SLNB患者，切除ICBN组134例，保留ICBN组50例；两组平均年龄45.31岁；TNM分期：I期66例，11期97例，111期21例；病理类型：浸润性导管癌143例，浸润性小叶癌24例，其他类型癌17例。病变部位：左侧86例，右侧98例，内下象限28例，内上象限32例，外下象限34例，外上象限90例。手术方式：局部切除术(保乳术)88例，乳房全部切除术79例，改良更治术17例。以上患者均行粗针穿刺组织病理学检查确诊为原发性乳腺癌。

1.2 方法

两组均行SLNB术，术中依据核素探测器将高于10%最高记数的腋窝淋巴结全部切除。不同的是在ICBN保留组中，当SLN位于胸小肌外侧缘时，注意保护好ICBN，该神经直径约1.5~2.0 mm，从第2肋间穿出进入上臂内侧、与胸长神经垂直的横行如琴弦索状物。用神经拉钩轻拉保护，完成深部前哨淋巴结活检术。手术由同一专业组医师完成。记录淋巴结检出数、手术时间、术中出血量、术后切口并发症及术侧腋窝、上臂疼痛感觉异常情况。

2 结果

2.1 两组一般资料比较

ICBN保留组和ICBN切除组年龄、肿瘤位置及所在象限、病理类型、临床分期和手术方式比较，差异无统计学意义(P>0.05，表1)。

2.2 两组手术时间、术中出血量、淋巴结检出数及术后切口并发症比较

两组手术时间、术中出血量、淋巴结检出数及术后切口并发症比较，差异无统计学意义(P>0.05)。术后并发症的皮下积液定义为术后5 d局部皮肤隆起，触之有漂浮感，局部穿刺或切开有液体流出量>5 mL，B超显示有明显液性暗区[27]。积液量<30 mL一般不做处理，10~20 d可自行吸收。>30 mL可采用每日穿刺抽吸法，每次尽量抽吸干净，积液量会逐日减少消失。术后感染予以抗生素治疗。保留组术后出现3例皮下积液，2例感染，1例血肿，术后并发症发生率为12.00%；切除组皮下积液9例，感染3例，血肿2例，术后并发症发生率为10.45%，保留ICBN组并发症略高于切除组，但差异无统计学意义(P>0.05，表2)。

2.3 两组术后近期随访

3个月随访无局部复发患者；近期疼痛及局部感觉障碍情况随访，采用McGill疼痛问卷表及Fugl-Meyer感觉功能评定表进行判定[28-29]，触觉、痛觉、温度用棉签、大针头和温水试管检测，两点辨别觉及图形觉用叩诊锤两尖端划画检测。ICBN保留组患者术侧腋窝、上臂疼痛及感觉异常的发生率明显低于对照组，有统计学差异(P<0.01)。且ICBN保留组3月后术侧胸肌无明显萎缩，术侧上肢活动良好。而ICBN切除组1月内大部分出现术侧腋窝上臂疼痛及感觉异常(表3)。

表1 两组一般资料比较

Table 1 Comparison of general data between the two groups

组别	n	平均年龄	位置(左/右)	象限(内下/内上/外下/外上)	病理类型(导管/小叶/其他)	临床分期(I/II/III)	手术方式(局部切除/全部切除/改良)
切除	134	46.12	63/71	20/24/25/65	105/17/12	48/71/15	64/58/12
保留	50	43.58	23/27	8/8/9/25	38/7/5	18/26/6	24/21/5
t/χ^2		–1.26	1.165	0.271	1.537	1.602	0.648
P		0.271	0.302	0.890	0.598	0.442	0.763

表2 两组淋巴结检出数、手术时间、术中出血量及术后切口合并症比较

Table 2 Comparison of the number of lymph nodes, operation time, intraoperative blood loss and postoperative between the two groups

组别	n	手术时间/min	术中出血量/mL	SLN活检数	术后并发症/%
保留组	50	40.3 ± 9.4	12.5 ± 5.3	6.4 ± 2.5	12.00
切除组	134	36.4 ± 10.1	11.5 ± 4.1	6.9 ± 2.9	10.45
t/χ^2		1.941	1.897	0.684	1.425
P		0.136	0.686	0.742	0.538

表3 两组SLNB术后近期腋窝及上臂内侧皮肤感觉减退比较

Table 3 Comparison of recent axillary and medial cutaneous sensory loss in patients with breast cancer in SLNB group

组别	n	随访时间/[例(%)]				
		3天	0.5个月	1个月	2个月	3个月
保留组	50	22 (44.00)	5 (10.00)	3 (6.00)	2 (4.00)	1 (2.00)
切除组	134	62 (46.27)	60 (44.78)	48 (35.82)	40 (29.85)	32 (23.88)
χ^2		1.598	45.874	46.252	37.024	40.998
P		0.769	<0.01	<0.01	<0.01	<0.01

3 讨论

腋窝SLNB对早中期乳腺癌患者是一种创伤小、并发症少的安全有效的手术方式，其不仅能评估乳腺癌细胞的淋巴转移，代替ALND作为临床分期阴性乳腺癌的常规分期手术[10]，而且对于乳腺肿瘤≤3 cm，SIN阳性<3个，SLNB联合保乳手术可取代ALND而成为早期乳腺癌的标准治疗模式[11-12]。但术中不保留ICBN，术后也可出现ICBN综合征，即术侧该神经支配的腋窝和上臂疼痛酸胀、蚁走感、麻木、温触觉减退，药物及理疗难以控制的综合征[30-31]。Tairta等[32]研究表明：当ICBN未被肿瘤浸润时，保留ICBN不增加区域或局部淋巴结复发率，不影响患者的生存期。当然，并不是所有乳腺癌手术都可以保留ICBN，如ICBN解剖变异，无法避免切除[33]，或肿大的淋巴结与神经紧密粘连无法分离，则不能保留ICBN[34]。本研究显示：乳腺癌SLNB术中暴露并保留ICBN组的手术时间、术中出血量、清扫淋巴结数目和术后并发症发生率与切除组比较，差异无统计学意义。研究[35]表明保留ICBN的SLNB未增加手术难度及术中、术后危险性，不影响SLN的检测率。

本研究中两组术后3 d换药，发现保留ICBN组的44%(22/50)患者术后也出现腋窝或上臂内侧的感觉异常，可能与术中牵拉、钳夹ICBN及分支有关。所以术中妥善保护ICBN特别重要。而切除ICBN组53.73%(72/134)的患者也可不出现疼痛及感觉异常。与文献[36-37]报道的保留或切除ICBN的乳腺癌改良患者术后近期感觉异常发生率或无感觉异常发生率基本一致。于术后2周将ICBN保留组与非保留组的患侧腋窝及上臂内侧皮肤感觉异常情况进行对比，发现保留ICBN患者患侧腋窝及上臂内侧皮肤感觉异常发生率明显低于对照组。Pardes等[38]发现不保留ICBN的患者，术后出现上臂感觉异常以内侧为多，而保留ICBN患者术后症状较轻，且持续时间短。本研究中比较ICBN保留组与非保留组术后第0.5，1，2，3个月的术侧腋窝上臂疼痛及感觉异常缓解率，发现保留组术后44%(22/50)感觉异常的患者，其中38%(19/50)能在1个月内恢复正常，3个月后仅有1例术侧腋窝仍有蚁走感。而切除组术后46.27%(62/134)疼痛及感觉异常患者3个月后有一半患者症状有所恢复，但另一半23.88%(31/134)患者难以恢复。与Taira等[32]报道基本相同。可见ICBN切除后会明显增加患者出现ICBN综合征的概率。早中期乳腺癌行SLBN时，保留ICBN并不增加手术难度，却可明显减少术侧腋窝上臂疼痛及感觉异常的发生，能保持患者原有的高质量生活，在临床工作中有重要意义。我们期待将来能统一制定乳腺癌SLNB的规范化操作，以便更好的指导临床实践。

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