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高频超声引导下导丝定位在不可触及乳腺包块切除术中的应用 *

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摘要 目的:探讨高频超声引导下导丝定位在不可触及乳腺包块切除术中的应用价值。**方法:**回顾性分析 90 例临床不可触及但超声提示为乳腺包块的患者的临床资料,其中 50 例在高频超声引导乳腺病灶体表定位下行乳腺病灶切除术,40 例在高频超声引导导丝定位下行乳腺病灶切除术。比较两组术前定位时间、手术时间、切除组织量/肿物组织量及术后并发症的发生情况、术后病理诊断及术后超声随访情况。**结果:**与体表定位组比较,导丝定位组定位时间显著延长($P<0.05$),手术时间明显缩短($P<0.05$),切除组织量/肿物组织量显著减小($P<0.05$)。体表定位组出现 2 例切口感染,5 例血肿,两组不良反应的发生率相比差异无统计学意义($P>0.05$)。体表定位组良性 48 例(96.0%),恶性病灶 2 例(4.0%)。导丝定位组良性病灶 36 例(90.0%),恶性病灶 4 例(10.0%)。两组病理诊断为良/恶病灶的比例无统计学意义($P>0.05$)。术后超声随访 6~12 个月,病灶切除情况比较差异无统计学意义($P>0.05$)。**结论:**高频超声引导下导丝定位精确,可明显缩短手术时间,减少对正常乳腺组织的破坏,可作为行不可触及乳腺包块切除术的优先选择。

关键词: 高频超声;导丝定位;乳腺包块

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Application of High Frequency Ultrasound Guided Wire Positioning for the Non Palpable Breast Mass Resection*

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ABSTRACT Objective: To investigate the application value of high frequency ultrasound guided wire localization for the non palpable breast mass resection. **Methods:** The clinical data of 90 cases of patients with palpable breast masses were retrospectively analyzed, 50 cases were under surface positioning of breast lesions guided by high frequency ultrasound, and 40 cases were under wire positioning of breast lesions guided of high frequency ultrasound. The preoperative positioning time, operation time, the amount of resected tissue dose/tumor dose, postoperative complications, postoperative pathological diagnosis and postoperative follow-up were compared between the two groups. **Results:** Compared with the surface positioning group, the positioning time of positioning group was significantly extended ($P<0.05$), and operation time was shortened ($P<0.05$), the resected tissue dose/tumor dose was reduced ($P<0.05$) and incidence of complications showed no statistically significant difference between two groups ($P>0.05$). 48 cases (96%) was optimum in surface location group, and 2 cases (4%) was malignant lesions. There were 36 cases of benign lesions in the wirepositioning group (90%), and 4 cases of malignant lesions (10%). The pathological diagnosis of benign lesions / cachexia ratio of two groups showed no statistically significant difference ($P>0.05$). The patients were followed up for 6~12 months after operation, and there was no significant difference in the lesions resection between the two groups($P>0.05$). **Conclusion:** High frequency ultrasound guided wire localization showed high accuracy, which can significantly shoren the operation time, reduce the damage to normal breast tissue. It was an excellent choice for non palpable breast mass resection.

Key words: High frequency ultrasound; Wire positioning; Breast mass

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前言

乳腺癌是世界女性的常见恶性肿瘤之一,随着人们的生活压力越来越大,乳腺癌年轻化越来越严重,且发病率不断升高

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[12]。临床研究表明影像学诊断对于不能触及乳腺包块和微小病灶效果不佳。近年来,高频超声的应用使很多临床不可触及、X线片不能被发现的乳腺包块的诊断率明显提高[3,4]。目前,国内对于乳腺包块的诊治仍以开放手术为主,但由于不易触及的乳腺包块一般部位较深,质地与周围正常腺体无明显差别,触诊定位难度大,所以术中常常寻找病灶困难,且不易判断病灶是否被完全切除 [5,6]。术前的精确定位是保证病灶完全切除的前提,过去常在影像引导体表定位法下行开放手术,但不足之处是乳腺组织的活动度大,皮肤定位点与深部病灶可发生相对移位。超声下导丝定位法具有定位精确、创伤小、无射线伤害、简单易操作的特点[7-9],目前在国际上的应用越来越广泛。因此,本研究主要探讨了高频超声引导下导丝定位在不可触及乳腺包

块切除术中的应用价值,以期临床提供参考。

1 资料和方法

1.1 一般资料

回顾性分析 2013 年 3 月~2016 年 6 月我院收治的临床触诊乳腺病灶不可触及而超声提示乳腺低回声包块且为实性的 90 例女性,年龄 26~68 岁,术前均行诊断性超声检查,其中 50 例在高频超声引导下体表定位下行乳腺病灶切除术,40 例在高频超声引导下导丝定位下行乳腺病灶切除术,患者均签署手术同意书。两组基本资料比较差异均无统计学意义($P>0.05$),具有可比性,见表 1。

表 1 两组基本资料的比较

Table 1 Comparison of the baseline information between two groups

Groups	Age (Year)	Focus size (cm)	Location(n)			BI-RADS grade(n)			
			One single	One double	Breasts single-shot	2	3	4	5
Body surface location group(n=50)	47.86± 7.34	1.11± 0.29	29	14	7	17	20	8	5
Thread positioning group(n=40)	46.27± 6.95	1.23± 0.41	21	15	4	11	15	6	8
P	0.000	0.413		0.311				0.293	

1.2 仪器及方法

美国 GEvivid4 型彩色超声诊断仪,探头频率 7.5MHz,配备穿刺引导架,巴德 20G-170mm 带外套针导丝。体表定位组:仰卧位,患侧上肢外展 90°。透过超声显示包块部位、大小、内部回声、边界的清晰度及血流,在包块的皮肤表面作标记。导丝定位组:取仰卧位并外展上肢,以超声检查显示的情况为参考,测量穿刺点与包块的垂直距离,沿包块最大径线方向进针,注意避开周围大血管。2%利多卡因局麻,在实时超声引导下将定位导丝刺入,观察穿刺针的入径和位置,避免突破包块对侧边界[3],超声清晰显示导丝位置后退出外套针,固定针芯内的导丝,于体外保留导丝尾端,穿刺处用菌辅料覆盖。定位结束后,转入外科手术流程,常规行乳腺病灶切除术,切除病灶及周围少许腺体,术后送病理检查。

1.3 观察指标

记录术前定位时间、住院时间、术后并发症以及术中切除肿物及周围组织的长、宽、高,计算切除组织量与病灶组织量之比;术后超声随访 6~12 个月,判断病灶是否被完全切除。

1.4 统计学方法

采用 SPSS18.0 统计软件分析处理数据,计量资料以 $\bar{x} \pm s$ 表示,组间比较采用 t 检验,计数资料以【例(%)】表示,组间比较采用 χ^2 检验,以 $P<0.05$ 表示差异有统计学意义。

2 结果

2.1 两组术前定位、术中及术后并发症发生情况的比较

与体表定位组比较,导丝定位组定位时间较长($P<0.05$),手术时间缩短 ($P<0.05$),切除组织量/肿物组织量减小 ($P<0.05$),体表定位组出现 2 例切口感染,5 例血肿,但两组相比差异无统计学意义($P>0.05$)。

表 2 两组术前定位、术中及术后并发症的发生情况比较

Table 2 Comparison of the incidence of preoperative localization, intraoperative and postoperative complications between two groups

Groups	Positioning time (min)	Operation time (min)	Removing Tissue volume/quantity of the mass organization	Infection of incisional wound(n)	Hematoma(n)
Body surface location(n=50)	7.19± 2.00	37.01± 3.29	142.34± 12.16	2	5(10.0)
Wire Localization(n=40)	16.38± 2.79	23.97± 2.09	66.64± 10.45	0(0.0)	2(5.0)
P	0.000	0.000	0.000	0.763	0.715

2.2 两组术后病理诊断结果的比较

体表定位组良性 48 例,占 96.0%,包括乳腺腺病 27 例,纤维腺瘤 18 例,导管内乳头状瘤 3 例,恶性病灶 2 例,占 4.0%,均为浸润性导管癌。导丝定位组良性病灶 36 例,占 90.0%,包括乳腺腺病 15 例,纤维腺瘤 9 例,乳腺纤维囊性病 6 例,导管内乳头状瘤 6 例,恶性病灶 4 例,占 10.0%。两组比较差异无统

计学意义($P>0.05$)。

2.3 术后随访

术后超声随访 6~12 个月,体表定位组失访 4 例,超声提示 46 例中有 1 例病灶漏切,导丝定位组术失访 1 例,超声提示 39 例均完整切除病灶。两组比较差异无统计学意义($P>0.05$)。

3 讨论

据统计,每年有 40~60 万女性死于乳腺癌,约占女性恶性肿瘤的 23%^[10-12]。因此,乳腺癌的治疗和预防非常重要,而早发现、早诊断、早治疗是防治乳腺癌的重要方法^[13,14]。在超声发现临床不可触及的乳腺包块后,由于包块的性质不好确定,所以常会选择手术切除^[15-17]。本研究中,术后病理诊断恶性 6 例,占 6.7%。对于临床不可触及乳腺包块能否被完整切除的关键,病灶的精准定位显得尤为关键^[18-20]。超声引导导丝定位法具有定位精确、创伤小、无射线伤害、简单易操作的特点,是影像引导下体表定位法的替代方法^[21-23]。

本研究结果显示:① 超声引导导丝定位法的定位时间比体表定位法长,但前者的手术时间明显缩短,究其原因术者能透过导丝引导快速找到肿物,有利于减少手术时间,减小手术创伤。② 超声引导导丝定位法的定位精准度比体表定位法好,本研究采用切除组织量与肿物组织量的比值来反映二种定位法的精准度,比值越小,定位越精准^[24-26]。导丝定位法的比值更小,说明定位更准确,不仅有利于完整切除肿物,而且还能减少对正常乳腺组织的破坏。乳腺组织切除量可直接影响乳腺外观,乳腺组织切除越多,就越容易出现局部塌陷、变形及不对称,尤其是对于那些乳腺不发达的年轻患者,将正常乳腺组织更多的保留显得十分重要。在超声引导导丝定位下行乳腺包块切除术有利于减少对乳腺外观的破坏,符合乳腺外科微创化的要求^[4]。③ 超声引导导丝定位法的术后并发症少,与体表定位法无明显差异,说明导丝定位不会由于导丝的植入而增加术后切口感染和血肿的危险,有较高的安全性^[27]。④ 超声引导导丝定位下行乳腺开放手术病灶切除完整,本组术后超声随访 6~12 个月,除去失访的 1 例,其他 39 例经超声提示均无漏切。

当然,超声引导下导丝定位也存在局限,对部分微小钙化灶的显示清晰度尚不足^[28]。而且超声可产生切面厚度伪像,对同一声束宽度内的结构在声像图上可出现相互重叠现象,因而在判断导丝是否在包块内部时,不能只从单一切面进行观察,应变化探头方向,多切面观察^[29]。超声引导下导丝定位应注意几点:① 最好在术前半小时左右置入导丝,定位成功后立即手术,避免患者多长时间活动而造成导丝移位或局麻效果消退后患者因异物的置入而感到不适^[30];② 在穿刺时最好以病灶最大切面为准,并沿包块最大径线方向进针,以使导丝能处于病灶的中央位置;③ 对于导丝定位的进针,通常是用经皮向病灶斜行穿刺,进针点与病灶有一定的间距,当进针点与病灶的距离较大时可结合体表标记,有利于缩小手术切口;④ 穿刺过程中最好用探头加压固定病灶,特别是对包膜坚韧、硬度以及活动度较大的病灶,以防穿刺针从病灶周边刺入或不能刺入;⑤ 穿刺针应达到病灶后 1/3,针尖位置合适后,先推进导丝直到不能继续推动为止,再固定导丝,撤针体,这样能够保证导丝双钩完全打开并牢固钩于组织内;⑥ 若是释放导丝后发现位置理想,可重新穿刺并释放导丝,但最好做到一次性成功,以减少对手术区域造成过多损伤而影响手术。

总之,高频超声引导下导丝定位精确,可明显减少手术时间,减少对正常乳腺组织的破坏,可作为行不可触及乳腺包块切除术的优先选择。

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· 重要信息 ·

《现代生物医学进展》2018 年封面设计说明

本次封面设计使用了两张图片并做了切割处理, 照片其一是参照意大利艺术家达芬奇的著名素描作品《维特鲁威人》所做的人体骨骼和形态示意图, 图中的人体形态与时钟有相似之处, 图二为时钟与人脑的组合, 这两幅图片都在强调人体与时间的联系。长久以来人们便认识到: 包括人类在内的生物有一个内部生物钟, 能帮助生物预测和适应外界节奏规律。当外部环境和内部生物钟出现不匹配, 就会出现相应紊乱, 并增加许多疾病的风险。2017 年 10 月 2 日, 诺贝尔生理学或医学奖授予了美国生物学家 Jeffrey C. Hall, Michael Rosbash 和 Michael W. Young, 以奖励他们在发现 " 昼夜节律控制分子机制 " 方面的贡献。他们找到了一个能控制日常生物节律的基因, 这种基因所编码的蛋白在细胞中会随时间变化, 就像是细胞内部生物节律时钟的发条。本年度的杂志封面选择生物节律为主题, 凸显了《现代生物医学进展》随时关注着生物医学发展的脚步, 时刻保持在该研究领域的前沿。