

综上所述,应用超声辅助定位法定位T7的准确率高于体表标志触诊法,在进行硬膜外麻醉及神经阻滞前可先应用超声进行定位,以达到最佳的麻醉或镇痛效果。

参考文献

- [1] Furness G, Reilly MP, Kuchi S. An evaluation of ultrasound imaging for identification of lumbar intervertebral level [J]. Anaesthesia, 2002, 57(3):277-280.
- [2] Hayes J, Borges B, Armstrong D, et al. Accuracy of manual palpation vs ultrasound for identifying the L3-L4 intervertebral space level in children [J]. Paediatr Anaesth, 2014, 24(5):510-515.
- [3] Watson MJ, Evans S, Thorp JM. Could ultrasonography be used by an anaesthetist to identify a specified lumbar interspace before spinal anaesthesia? [J]. Br J Anaesth, 2003, 90(4):509-511.
- [4] Teoh DA, Santosham KL, Lydell CC, et al. Surface anatomy as a guide to vertebral level for thoracic epidural placement [J]. Anesth Analg, 2009, 108(5):1705-1707.
- [5] Chin A, Crooke B, Heywood L, et al. A randomised controlled trial comparing needle movements during combined spinal-epidural anaesthesia with and without ultrasound assistance [J]. Anaesthesia, 2018, 73(4):466-473.
- [6] Ambulkar R, Patil V, Doctor JR, et al. Accuracy of ultrasound imaging versus manual palpation for locating the intervertebral level [J]. J Anaesthesiol Clin Pharmacol, 2017, 33(3):348-352.
- [7] Arzola C, Avramescu S, Tharmaratnam U, et al. Identification of cervicothoracic intervertebral spaces by surface landmarks and ultrasound [J]. Can J Anaesth, 2011, 58(12):1069-1074.
- [8] Rasoulian A, Lohser J, Najafi M, et al. Utility of prepuncture ultrasound for localization of the thoracic epidural space [J]. Can J Anaesth, 2011, 58(9):815-823.
- [9] Holmaas G, Frederiksen D, Ulvik A, et al. Identification of thoracic intervertebral spaces by means of surface anatomy: a magnetic resonance imaging study [J]. Acta Anaesthesiol Scand, 2006, 50(3):368-373.

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· 病例报道 ·

Ultrasonic manifestations of primary testicular diffuse large B-cell lymphoma: a case report 睾丸原发弥漫性大B细胞淋巴瘤超声表现1例

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患者男,58岁,因发现左侧睾丸增大1周且伴睾丸疼痛加重2 d入院。体格检查:左侧阴囊较对侧明显增大,阴囊内扪及一直径约5 cm实质性肿物,质韧,无触痛,睾丸扪诊欠清。实验室检查:血常规、血沉、肿瘤标记物均未见异常。二维超声检查:左侧睾丸较对侧体积增大,其内见一大小约4.8 cm×3.4 cm不均质低回声区,边界不清晰;CDFI示其内可探及树枝状丰富血流信号;频谱多普勒呈高速低阻血流,收缩期峰值流速52.85 cm/s,阻力指数0.41(图1,2)。超声提示:左侧睾丸病变,考虑炎性,肿瘤性病变不排除,建议行超声造影进一步检查。超声造影检查:病灶于12 s见造影剂开始灌注,16 s病灶整体呈均匀高增强,36 s造影剂消退呈不均匀低增强,呈“快进快出”模式(图3,4)。超声造影提示:左侧睾丸恶性病变可能性大,考虑淋巴瘤。排除禁忌后于椎管麻醉下行左侧睾丸根治性切除术。术后病理检查:大体标本呈(左睾丸肿物)灰白灰红不整组织,大小为4 cm×3 cm×1 cm,部分区域见包膜,切面灰白灰红细腻鱼肉状;镜下见弥漫大B细胞大小为正常细胞2倍以上,空泡状,核仁明显,

胞浆嗜碱性,核分裂象中到多见,核轮廓圆形或椭圆形,核膜厚,染色质粗,瘤细胞有浆细胞样分化(图5)。免疫组化检查:CD20(弥漫+),D2-40(淋巴管+),Ki67(80%+),BCL2(70%+),BCL6(+),c-Myc(60%+),MUM1(+),PAX-5(+),CD79(+),见图6。病理诊断:(左侧睾丸)非霍奇金淋巴瘤-弥漫性大B细胞淋巴瘤。

讨论:非霍奇金淋巴瘤是一种恶性肿瘤,起源于淋巴结和淋巴组织,病理学分型主要以弥漫性大B细胞淋巴瘤为主,主要发生于淋巴结、脾脏等淋巴器官,结外器官也可受累。睾丸原发非霍奇金淋巴瘤占所有非霍奇金淋巴瘤的1%~2%,占所有睾丸恶性肿瘤的1%~7%^[1]。临幊上多见于老年男性,主要表现为无痛性睾丸肿大,可伴有坠涨感,部分患者可出现低热、体质量下降等全身表现。弥漫性大B细胞淋巴瘤典型的免疫表型是CD20+、CD45+和CD33(-),此可用于与其他淋巴瘤表型鉴别^[2]。本病超声主要表现为整个睾丸体积明显肿大,大于正

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- a meta-analysis[J]. Clin Exp Rheumatol, 2016, 34(1): 11–16.
- [13] Hasan AA, Makhoul HA. B-lines: transthoracic chest ultrasound signs useful in assessment of interstitial lung diseases[J]. Ann Thorac Med, 2014, 9(2): 99–103.
- [14] Tardella M, Di Carlo M, Carotti M, et al. Ultrasound B-lines in the evaluation of interstitial lung disease in patients with systemic sclerosis: cut-off point definition for the presence of significant pulmonary fibrosis[J]. Medicine (Baltimore), 2018, 97(18): 566.
- [15] Vassalou EE, Raissaki M, Magkanas E, et al. Lung ultrasonography in patients with idiopathic pulmonary fibrosis: evaluation of a simplified protocol with high-resolution computed tomographic correlation[J]. J Ultrasound Med, 2018, 37(3): 689–696.
- [16] Xie HQ, Zhang WW, Sun S, et al. A simplified lung ultrasound for the diagnosis of interstitial lung disease in connective tissue disease: a meta-analysis[J]. Arthritis Res Ther, 2019, 21(1): 93.
- [17] Santana PV, Cardenas LZ, de Albuquerque A, et al. Diaphragmatic ultrasound findings correlate with dyspnea, exercise tolerance, health-related quality of life and lung function in patients with fibrotic interstitial lung disease[J]. BMC Pulm Med, 2019, 19(1): 183.
- [18] Xu X, Wu R, Zhang YJ, et al. Value of combination of heart, lung,

and diaphragm ultrasound in predicting weaning outcome of mechanical ventilation[J]. Med Sci Monit, 2020, 26(8): e924885.

- [19] Sun Y, Zhang LN, Feng Q, et al. A preliminary study on the evaluation of diaphragm function by ultrasound in patients with invasive mechanical ventilation[J]. Zhonghua Nei Ke Za Zhi, 2020, 59(9): 695–699.
- [20] Boccatonda A, Decorato V, Cocco G, et al. Ultrasound evaluation of diaphragmatic mobility in patients with idiopathic lung fibrosis: a pilot study[J]. Multidiscip Respir Med, 2019, 14(1): 1–6.
- [21] Zhang X, Zhou B, Bartholmai B, et al. A quantitative method for measuring the changes of lung surface wave speed for assessing disease progression of interstitial lung disease[J]. Ultrasound Med Biol, 2019, 45(3): 741–748.
- [22] Russell FM, Ferre R, Ehrman RR, et al. What are the minimum requirements to establish proficiency in lung ultrasound training for quantifying B-lines[J]. ESC Heart Fail, 2020, 7(5): 2941–2947.
- [23] Moshavegh R, Hansen KL, Moller-Sorensen H, et al. Automatic detection of B-lines in vivo lung ultrasound[J]. IEEE Trans Ultrason Ferroelectr Freq Control, 2019, 66(2): 309–317.

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图1 二维超声示病灶内部回声不均质,边界不清(箭头示)

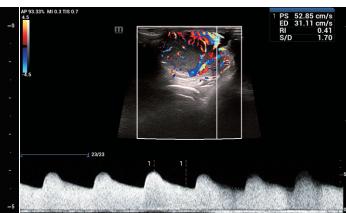


图2 CDFI于病灶内探及丰富血流信号,呈“树枝状”分布,频谱多普勒呈“高速低阻”血流

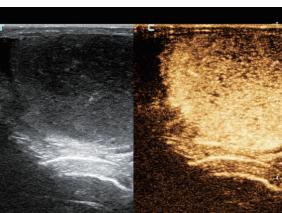


图3 超声造影示病灶动脉相呈均匀性高增强

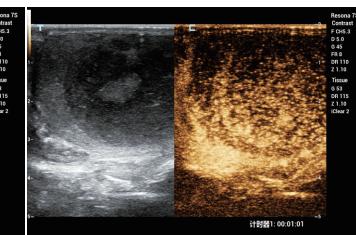


图4 超声造影示病灶静脉相呈均匀性低增强

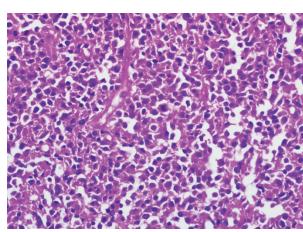


图5 病理图(HE染色,×400)

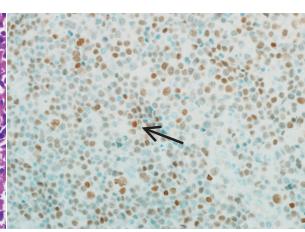


图6 免疫组化检查图(×400)

常睾丸1~3倍,内部呈弥漫性低回声或内见不均质低回声区,边界不清晰。由于淋巴瘤的病理特点是淋巴细胞无限制增生,同时伴血管扩张,故病灶内彩色血流信号极其丰富,呈Ⅱ~Ⅳ级,频谱多普勒呈高速低阻血流。超声造影示病灶常早于正常睾丸组织呈均匀性高增强,大部分呈“快进快出”模式,部分呈“快进慢出”的造影模式。本例病灶动脉相呈均匀性高增强,静脉相呈不均匀性低增强,整体呈现出血供丰富、“快进快出”的造影模式。本病需与睾丸结核、脓肿、睾丸炎、精原细胞瘤等相鉴别。①睾丸结核多并发于附睾结核,病灶以低回声结节多见,呈散在分布。②脓肿形成时,病灶内见含有细点状回声的无回

声区,慢性期,病灶呈等、高回声,可见斑点状钙化。③急性睾丸炎时睾丸肿大,回声不均,血供增多,血流信号呈扇形分布^[3]。④睾丸精原细胞瘤多见于青壮年,通常为肿大的睾丸保持卵圆形,包膜光滑完整,肿瘤病灶区呈低回声,一般不侵犯睾丸外组织。本病病因尚不清楚,可能是由于睾丸炎症反应使淋巴细胞进入睾丸组织中,发生基因突变形成肿瘤。超声作为睾丸疾病的首选影像学检查手段,可为睾丸肿瘤的诊断提供初步且有价值的信息。

参考文献

- [1] Niitsu N, Umeda M. Clinical features of testicular non-Hodgkin's lymphoma: focus on treatment strategy[J]. Acta Oncol, 1998, 37(7–8): 677–680.
- [2] 陈博, 杨威. 双侧卵巢非霍奇金淋巴瘤弥漫大B细胞型2例[J]. 中国实用内科杂志, 2011, 31(6): 462–463.
- [3] 姜玉新, 张运. 超声医学[M]. 8版. 北京: 人民卫生出版社, 2015: 461–463.

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