

CT 扫描在食管癌淋巴结转移患者预后评估中的应用价值

曾礼勤¹ 李敏健^{2△} 陈 双¹ 翁捷晓¹ 赖坤全³

(1 广州南沙区中医医院 放射科 广东 广州 511462 2 广州医学院第二附属医院 放射科 广东 广州 510260;

3 江西石城县人民医院 放射科 江西 石城 342700)

摘要 目的 探讨 CT 扫描对食管癌淋巴结转移诊断的准确率及 CT 扫描对预测淋巴结转移患者预后的价值。方法 选择我院收入的行食管癌根治术患者共 146 例,患者均行 CT 及腹部彩超,检查者 CT 及腹部彩超对食管癌淋巴结转移检测的准确率及漏诊率,检测 CT 淋巴结转移数、CT 三分区转移情况及 CT 最大病变直径等 CT 检测与食管癌淋巴结转移相关因素。结果 CT 淋巴结总检出率显著高于彩超检出率,两组对比差异有统计学意义 $P<0.05$ 。CT 检测中胸上段、胸中段总检出率显著高于彩超检出率,结果对比差异有统计学意义 $P<0.05$ 。所有患者自手术日起计算术后 1、3 年生存率分别为 73.3%(107/146)、47.9%(70/146),CT 转移数 ≥ 2 枚、CT 三分区转移 <2 区、CT 最大病变直径 ≤ 3 cm 患者术后生存率较高,结果对比差异有统计学意义 $P<0.05$ 。结论:CT 对食管癌淋巴结转移诊断率较高,CT 转移数、CT 三分区转移及 CT 最大病变直径检测可用于评估患者术后生存率情况。

关键词 CT;食管癌;淋巴结转移;腹部彩超

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The Application Value of CT in Esophageal Carcinoma with Lymph Node Metastasis Prognosis Assessment

ZENG Li-qin¹, LI Min-jian^{2△}, CHEN Shuang¹, WENG Jie-xiao¹, LAI Kun-quan¹

(1 The Department of Radiology of Nansha District TCM Hospital, Guangzhou 511462;

2 The Department of radiology of the Second Affiliated Hospital Guangzhou Medical College, Guangzhou, 510260;

3 The Department of Radiology of People Hospital Shicheng County Jiangxi, 342700)

ABSTRACT Objective: To investigate diagnosis accuracy rate of CT scan in esophageal carcinoma with lymph node metastasis, and CT scan in predicting lymph node metastases patients prognostic value. **Methods:** 146 esophageal carcinoma patients with radical resection were selected in our hospital, patients were treated with CT and abdominal doppler ultrasound, CT and abdominal doppler ultrasound examination of lymph node metastasis in esophageal cancer detection accuracy rate and the rate of missed diagnosis, detection of CT lymph node metastases number, the CT three partition metastasis and CT maximum lesion diameter CT detection esophageal carcinoma and lymph node metastasis related factors. **Results:** CT lymph node detection rate was significantly higher than abdominal ultrasound examination, the difference was statistically significant, $P<0.05$. CT detection the upper section, middle thoracic detection rate was significantly higher than abdominal ultrasound examination, the difference was statistically significant, $P<0.05$. All patients survival rates 1, 3 year after operation was 73.3% (107/146), 47.9% (70/146), CT transfer number >2 , CT three partition transfer <2 district, CT maximum lesion diameter ≤ 3 cm patients postoperative survival rate is high, the results has statistical differences, $P<0.05$. **Conclusion:** CT on lymph node metastasis of esophageal carcinoma diagnosis rate is high, the number of transferred CT, CT three partition transfer and CT maximum lesion diameter detection can be used in evaluating esophageal carcinoma patients postoperative survival rate.

Key words: CT; Esophageal carcinoma; Lymph node metastasis; Abdominal doppler ultrasound

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食管癌是我国最好发的恶性肿瘤之一,世界范围食管癌死亡率居恶性肿瘤第六位,我国食管癌发病率及死亡率位居恶性肿瘤的第四位^[1]。由于食管癌早期症状不明显,大部分患者疾病发现时已属于进展期,食管癌转移以淋巴结转移为主,淋巴结转移被认为是影响食管癌患者预后的最重要因素^[2-3]。传统上诊断淋巴结转移的手段包括 CT、MRI 及食管腔内超声检查等,能

准确的了解病变的范围以及淋巴结转移的情况,本研究分析我院行食管癌根治术患者的临床病理资料,并给予 CT 扫描,现报道如下。

1 资料与方法

1.1 一般资料

选择我院 2000 年 2 月至 2009 年 2 月收入的行食管癌根治术患者共 146 例,患者均术后行病理证实有腹部的淋巴结转移。患者男 91 例,女 55 例。年龄 48~79 岁,平均 55.7 ± 9.2 岁,其中胸上段食管癌共 18 例,胸中段食管癌共 66 例,胸下段食管癌 62 例。患者术前无任何症状 1 例,术前有胸背疼痛者 26

作者简介:曾礼勤(1972-),男,本科,放射专业主治医师,研究方向:消化系统 CT;

△通讯作者:李敏健,女(1962-),本科,主任医师,研究方向:放射专业

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例,其余患者均由于进行性吞咽困难、咽不畅或者梗阻等就诊。鳞状细胞癌共 144 例,小细胞未分化癌 2 例。入选患者中术前均可进流质食物,术前均行胸腹壁 CT 及彩超检查,患者术前未接触放化疗,入选患者排除其他恶性肿瘤者,术后病理资料详细完整。

1.2 手术资料

患者采取分别采取经右胸、上腹切口食管癌切除、食管胃颈部吻合术,经左胸切口、食管癌切除、食管胃左胸内吻合术及经右胸、上腹正中切口、食管胃右胸内吻合术。术中清扫肉眼可见的淋巴结,清扫后淋巴结行部位标记后送病理学检查。术中大体分型中,溃疡型 31 例,髓质型 101 例,其他 14 例。

1.3 检查方法

本组研究中的所有患者术前均行胸腹部 CT 及彩超,腹部彩超采用 Ge 彩色多普勒超声诊断仪,腹部多层螺旋检测采用螺旋 CT 机。CT 及彩超检测均由有经验医师分析诊断,患者淋巴结转移根据部位划分为胸上段、胸中段及胸下段三个区域。分析胸腹部 CT 及彩超对转移淋巴结判断的准确率及漏诊

率,结果与术后病理检测结果进行对照分析。其中两个以上淋巴结短径 $\geq 10\text{mm}$ 或者淋巴结短径 $\geq 15\text{mm}$ 者作为腹部淋巴结转移诊断标准^[4-5]。

1.4 检测指标

检查者 CT 及腹部彩超对食管癌淋巴结转移检测的准确率及漏诊率,检测 CT 淋巴结转移数、CT 三分区转移情况及 CT 最大病变直径等 CT 检测与食管癌淋巴结转移相关因素。

1.5 统计学处理

数据采用 SPSS16.0 软件进行统计分析,结果对比采用采用 McNemar χ^2 检验及单因素分析,其中 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 食管癌患者术后生存率

全组所有 146 例患者均完成随访,随访率 100%,患者自手术日起计算术后 1、3 年生存率见表 1,所有入选患者均行术后病理诊断存在着淋巴结转移。

表 1 食管癌患者术后生存率

Table 1 Survival rate after resection of esophageal cancer

Survival after resection of esophageal cancer	One year after operation	3 years after operation
Number of survivors	107	70
Survival Rate	73.3%	47.9%

2.2 CT 及腹部彩超对食管癌淋巴结转移检测结果

CT 食管癌淋巴结转移检测中胸上段准确率最高(94.4%),其次为胸中段(92.4%)及胸下段(80.6%),患者淋巴结总检出率为 87.7%。而彩超食管癌淋巴结转移检测中胸下段准确率最高(74.2%),其次为胸中段(63.6%)及胸上段(61.1%),患者淋巴

结总检出率为 67.8%。表明 CT 淋巴结总检出率显著高于彩超检出率,两组对比差异有统计学意义 $P < 0.05$ 。CT 检测中胸上段、胸中段总检出率显著高于彩超检出率,结果对比差异有统计学意义 $P < 0.05$,见表 2。

表 2 两组患者 CT 及腹部彩超对食管癌淋巴结转移检测结果对比

Table 2 Comparison of Esophageal Carcinoma metastasis detection results by CT and abdominal Doppler ultrasound between two groups

Group	n	Accuracy(%)		Omission diagnostic rate(%)		χ^2 value	P value
		CT	Color Doppler ultrasound	CT	Color Doppler ultrasound		
Upper thoracic	18	17(94.4)*	11(61.1)	1(5.6)*	7(38.9)	8.91	0.002
Middle thoracic	66	61(92.4)*	42(63.6)	5(7.6)*	24(36.4)	8.63	0.004
Under thoracic	62	50(80.6)	46(74.2)	12(19.4)	16(25.8)	0.85	0.527
Figure up	146	128(87.7)	99(67.8)	18(12.3)	47(32.2)	13.14	0.001

Note: *: The difference comparison with color Doppler ultrasound group has statistical significance, $P < 0.05$.

2.3 CT 检测与食管癌淋巴结转移患者预后相关性对比

CT 检测与食管癌淋巴结转移患者预后相关性对比中显示,CT 转移数、CT 三分区转移情况及 CT 最大病变直径为影响患者预后的相关因素,其中 CT 转移数 ≥ 2 枚、CT 三分区转移 < 2 区、CT 最大病变直径 $\leq 3\text{cm}$ 患者术后生存率较高,结果对比差异有统计学意义 $P < 0.05$ 。具体见表 3。

3 讨论

食管癌是人类最常见的消化道恶性肿瘤,在我国北方好发。手术及放疗是食管癌的主要治疗手段^[6-7],目前文献报道食管癌患者的 5 年生存率不尽相同,但基本在 30-60%之间^[8],当有 1-4 个淋巴结转移者 5 年生存率在 11.5%,超过 4 个以上淋巴结转移患者 5 年生存率为 0%^[9],本组患者均手术后处理,术后给予随访,研究发现 1、3 年生存率分别为 73.3%、47.9%,5 年生存率与文献报道相似^[10]。由于淋巴结转移是影响食管癌患者预后的主要标准之一。因此,食管癌淋巴结转移的诊断对评估

表 3 CT 检测与食管癌淋巴结转移患者预后相关性对比
Table 3 Correlative Study of CT detection and Prognosis of Esophageal Carcinoma metastasis patients

Lymph Node Metastasis		n	Survival Rate(%)		P value
			One year	Three year	
CT metastasis number	<2	110	89(80.9)	59(53.6)	P<0.05
	≥ 2	36	18(50.0)	11(30.5)	
CT three compartments metastasis	<2	115	89(77.4)	60(52.2)	P<0.05
	≥ 2	31	18(58.1)	10(32.2)	
CT diameter of largest lesions	≤ 3cm	81	68(83.9)	46(56.8)	P<0.05
	>3cm	65	39(60.0)	24(36.9)	

患者的预后至关重要,术前准确的判断淋巴结转移的情况,可以为临床设计合理的手术路径以及提供淋巴结清扫的范围给予支持,从而减少术后并发症的发生,从而一定程度的提高了患者的生存质量^[11-12]。

目前,临床上常用的食管癌淋巴结转移的诊断检测手段为CT、MRI及彩超等^[13-16]。由于MRI和CT一样是以淋巴结的直径大小作为转移的诊断标准,因此其特异性、敏感性以及诊断符合率均较低。此外,当淋巴结转移至膈下时MRI检测也较为困难^[17]。因此本研究采用CT及彩超对食管癌淋巴结转移情况进行检测,研究结果显示,CT食管癌淋巴结转移检测中胸上段准确率最高(94.4%),其次为胸中段(92.4%)及胸下段(80.6%),其总的检测准确率为87.7%,显著高于彩超的淋巴结总检出率(67.8%),结果对比差异有统计学意义 $P<0.05$ 。表明采用CT对食管癌淋巴结转移检测效果较佳,其中又以胸上段的检测率为最佳。

此外,本组研究探讨CT检测与食管癌淋巴结转移患者预后相关性情况,Kimmura等人^[18]研究显示转移淋巴结数量可以影响食管癌患者预后,转移淋巴结>3枚患者的中位生存期仅为25.7个月,而淋巴结转移在1~3枚者生存期可高达77.7个月。

本组病例中,CT转移数<2枚的患者术后1、3年生存率显著高于CT转移数≥2枚者,结果与文献报道相似^[19],表明CT淋巴结转移数影响食管癌患者术后生存率。本组将淋巴结转移根据部位划分为胸上段、胸中段及胸下段三个区域,本组结果中发现,<2区、≥2区转移患者术后生存率整体比较均存在有统计学意义。其原因可能在于≥2区转移患者手术清扫较难,清扫不彻底而降低患者术后生存率^[20]。此外,本组研究发现CT最大病变直径>3cm的患者术后生存率显著降低,病变直径大预示患者恶性程度较高。

综上所述,本研究认为CT对食管癌淋巴结转移诊断率较高,CT转移数、CT三分区转移及CT最大病变直径检测可用于评估患者术后生存率情况。

参考文献(References)

- [1] Chen Wan-qing, Zhang thinking, Kong Ling-zhi, et al. Data analysis of the mortality of malignant tumor in China in 2004 [J]. China tumor, 2008,17(11):913-916
- [2] Rice TW, Blackstone EH, Rybicki LA, et al. Refining esophageal

- cancer staging[J]. Thorac Cardiovasc Surg,2003,125(5):1103-1113
- [3] Zacherl J, Jakesz R. Status of surgical studies in oncology [J]. Chirurg, 2000,71(3):646-657
- [4] Huang Wei-peng, Xu Jian-sheng, Chen Jie-rong, et al. Lymph node metastasis of thoracic esophageal carcinoma distribution characteristics the spiral CT manifestations [J]. Chinese Journal of clinical medicine,2009,20(4):236-239
- [5] Wang Jun, Zhang Xian-bo. The research of diagnosis of lymph node metastasis of thoracic esophageal carcinoma [J]. Cancer Research on Prevention and Treatment,2008,35(3):218-221
- [6] Ellis FH Jr. Standard resection for cancer of the esophagus and cardia [J]. Surg Oncol Clin N Am,1999,8(2):279-294
- [7] Hayat MJ, Howlader N, Reichman ME, et al. Cancer statistics,trends, and multiple primary cancer analyses from the Surveillance, Epidemiology, and End Results (SEER) Program [J]. Oncologist, 2007,12(1):20-37
- [8] Ding Lu-lu, Chen Yong-sheng, Zhang Yong-hui, et al. Qidong city 2001~2007 esophageal cancer survival rate analysis[J]. China tumor, 2011;20(5):341-344
- [9] Chao xiu-feng. The influence of esophageal cancer of neoadjuvant chemoradiation for operation and survival rate [J]. WJG,2010,18(24): 2511-2514
- [10] Szumilo J. Epidemiology and risk factors of the esophageal squamous cell carcinoma[J]. Pol Merkur Lekarski.2009, 26(151):82-85
- [11] Dixit S, Tilston M, Peter WM. Risk stratification for recurrence in patients with esophageal and junctional carcinoma treated with neoadjuvant chemotherapy and surgery [J]. Med Oncol,2010,27: 242-248
- [12] Lv J, Cao XF, Zhu B, et al. Effect of coadjuvant chemoradiotherapy on prognosis and surgery for esophageal carcinoma [J]. World J Gastroenterol,2009,5:962-4968
- [13] Feng R, Li MH, Kong L, et al. Correlation between PET-CT 18FDG uptake in primary lesions and clinicopathological parameters in esophageal carcinoma patients [J]. Zhonghua Zhong Liu Za Zhi. 2009,31(6):452-454
- [14] Cao XF, He XT, Ji L, et al. Effects of neoadjuvant radiochemotherapy on pathological staging and prognosis for locally advanced esophageal squamous cell carcinoma [J]. Dis Esophagus 2009,22: 477-481

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- nal of Clinical Cardiology, 2009,25(9):710-712
- [2] 平广豫,周四光.甲状腺功能亢进性心脏病的临床诊治分析[J].国际医药卫生导报,2009, 15(23): 2-54
Ping Guang-yu, Zhou Si-guang. Analysis of diagnosis and treatment on patients with hyperthyroid heart disease [J]. International Medicine Health Guidance News, 2009, 15(23): 2-54
- [3] 唐丽君.甲状腺功能亢进性心脏病 84 例临床分析[J].中华临床医学杂志,2007,8(3):69
Tang Li-jun. The clinical analysis of hyperthyroid heart disease in 84 cases [J]. Journal of Chinese Clinical Medicine, 2007,8(3):69
- [4] 叶勇.甲状腺功能亢进性心脏病 50 例临床分析[J].基础医学论坛, 2009,13(26):785
Ye Yong. The clinical analysis of hyperthyroid heart disease in 50 cases [J]. Symposium on Basic Cardiology, 2009,13(26):785
- [5] 刘波影. 甲状腺功能亢进性心脏病 [J]. 中国民族民间医药,2010,19(22):101
Liu Bo-ying. Hyperthyroid heart disease [J]. Chinese Journal of Ethnomedicine and Ethnopharmacy, 2010,19(22):101
- [6] 种冠峰,高杰,马玉琴,等.甲状腺功能亢进性心脏病危险因素分析[J].中华地方病学杂志,2011,30(2):211-213
Chong Guan-feng, Gao Jie, Ma Yu-qin, et al. Risk factors analysis of hyperthyroidism complicated hyperthyroid heart disease [J]. Chinese Journal Endemiol, 2011,30(2):211-213
- [7] 黎南中,潘素琼,谢纹,等.甲亢性心脏病危险因素分析[J].中国现代医学杂志,2006,16(10):1537-1539
Li Nan-zhong, Pan Su-qiong, Xie Wen, et al. Dangerous factors analysis of hyperthyroidism complicated hyperthyroid heart disease with arrhythmia [J]. China Journal of Modern Medicine, 2006,16 (10): 1537-1539
- [8] 黎南中,潘素琼,谢纹,等.甲亢性心脏病心胸比例扩大的危险因素分析[J].广西医学,2011,33(9):1118-1120
Li Nan-zhong, Pan Su-qiong, Xie Wen, et al. Analysis of risk factors of thyrotoxic heart disease with cardiothoracic ratio expansion [J]. Guangxi Medical Journal, 2011,33(9):1118-1120
- [9] 潘晓亮,吴梅.甲状腺功能亢进性心脏病的心肌损伤及机制[J].青岛大学医学院学报,2008,44(4):375-376
Pang Xiao-liang, Wu Mei. The myocardial damage and mechanism of hyperthyroid heart disease [J]. Acta Academiae Medicinae Qiongdau Universitatis, 2008,44(4):375-376
- [10] 陈会欣,石梅.甲状腺功能亢进性心脏病发病的相关因素分析[J].中国基层医药,2006,13(5):729-730
Chen Hui-xin, Shi Mei. Analysis on relevant factors of hyperthyroidism complicating hyperthyroid heart disease [J]. Chinese Journal of Primary Medicine and Pharmacy, 2006,13(5):729-730
- [11] 陈路,方红城,吴京,等.甲状腺功能亢进症继发 度房室传导阻滞 [J].中国综合临床,2003,19(12):1079
Chen Lu, Fang Hong-cheng, Wu Jing, et al. The hyperthyroidism thyroid function secondary persistent -AVB[J]. Clinical Medicine China, 2003,19(12):1079
- [12] 黎南中,潘素琼,谢纹,等.甲亢性心脏病心功能不全危险因素分析 [J].华南国防医学杂志,2006,20(5):13-14,24
Li Nan-zhong, Pan Su-qiong, Xie Wen, et al. Analysis of risk factors of cardiac insufficiency in patients with hyperthyroid heart disease [J]. Military Medical Journal of South China, 2006,20(5):13-14,24
- [13] Vilches AR, Lerman J. First degree atrio-ventricular block in acute thyrotoxicosis medicina, 2004, 64(1):51-53
- [14] Shimizu T, Koide S, Noh JY, et al. Hyperthyroidism and the management of atrial fibrillation [J]. Thyroid, 2002, 12(6):489-493
- [15] 温志刚.甲亢性心脏病相关因素的初步探讨[J].国际医药卫生导报, 2002,8(7):76-78
Wen Zhi-gang. The discuss of correlative factors of hyperthyroid heart disease [J]. International Medicine Health Guidance News, 2002,8(7):76-78

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- [15] Chen G, Wang Z, Liu XY, Liu FY. Adjuvant radio-therapy after modified Ivor-Lewis esophagectomy: can it prevent lymph node recurrence of the mid-thoracic esophageal carcinoma [J]. Ann Thorac Surg, 2009,87: 1697-1702
- [16] Schwer AL, Ballonoff A, McCammon R, Rusthoven K, D'Agostino RB Jr, Schefter TE. Survival effect of neoadjuvant radiotherapy before esophagectomy for patients with esophageal cancer: a surveillance, epidemiology, and end-results study [J]. Int J Radiat Oncol Biol Phys, 2009,73:449-455
- [17] Mariette C, Balon J M, Piessen G, et al. Pattern of recurrence following complete resection of esophageal carcinoma and factors predictive of recurrent disease [J]. Cancer, 2003,97(7):1616-1623
- [18] Kimura H, Konishi K, Arakawa H, et al. Number of lymph node metastases influences survival in patients with thoracic esophageal carcinoma [J]. Dis Esophagus, 1999,12:205-208
- [19] Lerut T, Nafteux P, Moons J, et al. Three-field lymphadenectomy for carcinoma of the esophagus and gastroesophageal junction in 174 R0 resection impact on staging disease-free survival and outcome [J]. Ann Surg, 2004,240(6):962-972
- [20] Tsukuma H, Ajiki W, Ioka A, et al. Survival of cancer patients diagnosed between 1993 and 1996: a collaborative study of population-based cancer registries in Japan [J]. Jpn J Clin Oncol, 2006,36(9): 602-607