CT   :

TNM   [1]

.

:　　　　　CT　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　TNM

.

:　　　　　　CT　　　　　　,　　　　　　　　　　　　　　　　　　　　　　　60

,　　　　　　　　　　　　　.　　　　　　CT　　　600-800ml

, 150ml　　　　　　　　4ml　　　　　　　　　　　60

.　　　　　　5-7mm　　　　　　5-7mm　　　　.

CT　　　　　　　　　　　　　　　　　　　　　　　,

.　　　　　　　　　　TNM staging(UICC TNM classification, 1997)　　　　,

1-6　　　　N1, 7-15　　　　N2, 16　　　　　　N3

, CT　　　　　　　5mm　　　, 5mm

.

:　　　　　　　　　　　　　　　1,334　　　　　　　　　　　　,

352 (26%)　　　　　　　.　　TNM

CT　　　　55% (33/60)　, 15% (9/60)

, 30% (18/60)　　　　.　　　CT　61%　　36%

.

:　　TNM　　(UICC)

CT　　　,

,　　　　　　.

CT　　　　　　　　　　　　　　　　　　,

.

ducibility of lymph node classification)

CT　　　　　　　　　　　　　(1-　　　　　　(16).

12, 13).　　CT　　　　　　　　　　　　　　　TNM

,　　.

(9-12),

28.6-82.6%　　　　64.1%-92%　　　　　　, TNM　　　　CT

(11, 12, 14, 15).　　　　　.

TNM　　CT　　　　　,

TNM

,　　　(the repro-　　CT

60　　.

(en block resection)

.

32   80   59   ,
37   23   .   CT   HI-Speed
Advantages(General Electric Medical System, Milwaukee,
U.S.A.)   ,   600-800
ml   150ml   60
(Ultravist 300, Schering, Germany)   4ml

.

60   ,

.

5-7mm,   5-7mm,
5-7mm   . CT

5mm   (Fig. 1), 5mm
cluster   (Fig. 2)
(14, 15, 17),

CT

,   .
TNM staging(5th edition of the
UICC TNM classification, 1997)(18)   ,

:   CT

1-6   N1, 7-15
N2, 16   N3   .

60
1334
352 (26%)   .   N0   9   , N1   30   , N2   16
, N3   5   (Table 1).   CT
N0   56%,
N1   63%, N2   56%   , N3   5
CT
, 1   N0   , 1   N1   ,   3
N2   .   55%(33/60)
,   61%,   36%
,   (positive predictive value)   76%   . 9
(15%)   , 18   (30%)

.

CT   ,
,

(2, 7, 13, 18).   CT

CT   (5, 20,
21),

CT

Table 1. **Nodal Staging of Advanced Gastric Cancer According to New TNM Classification, Using Helical CT**

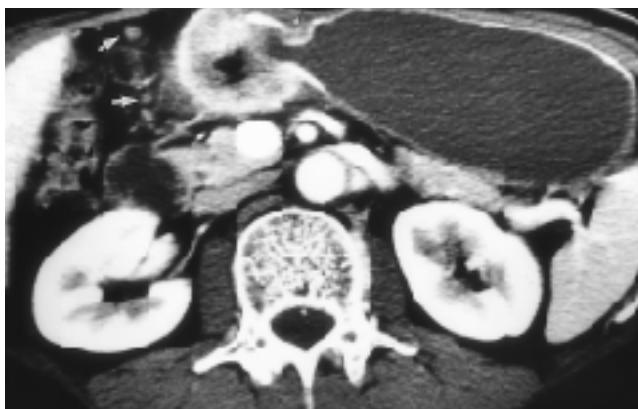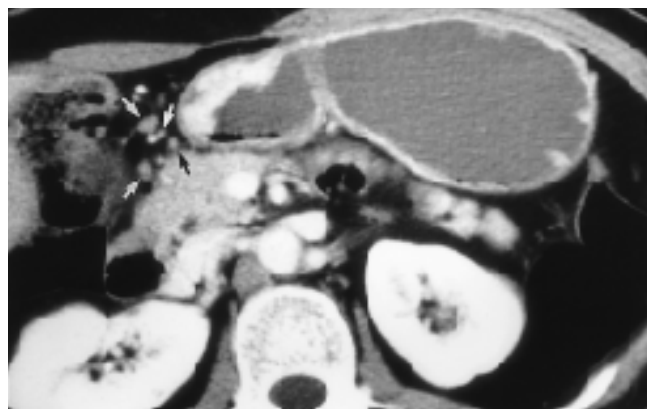| Pathology	CT			
	N0	N1	N2	N3
N0	5	3	1	0
N1	6	19	5	0
N2	0	7	9	0
N3	1	1	3	0

Fig. 1. **66-year-old man with advanced gastric cancer in the prepyloric antrum.**
Helical CT scan during the portal phase shows a 0.5cm sized (short-axis diameter), round lymph nodes(white arrows) in the perigastric fat adjacent to the primary gastric tumor.

Fig. 2. **43-year-old woman with advanced gastric cancer in the antrum.**
Helical CT scan during the portal phase shows three clustered lymph nodes (black and white arrows), which are more or less than 5mm in short-axis diameter and are located in the perigastric fat close to the primary tumor.

, 3 .

(22, 23).

CT (9-12).

N3 5 CT

28.6-82.6% 64.1%- 5 , 1 N0 , 1

92% (11, 12, 14, N1 , 3 N2 , CT

15), Fukuya(14) CT (axial scan) ,

20.6% CT ,

. CT

. CT

, CT , , CT ,

, , , (24),

. UICC 4th edi-

7mm-15mm (1-4, tion

6, 13), , (3-5, 7, 8, 11, 12, 13, 15, 20).

CT UICC TNM

(7, 8). Dorfman (25) 3cm N1,

3cm , ,

, 10mm , 6-9mm , , N2

. (18).

CT (en block resection)

33%-97% , 43%-94%

(1-4, 6-8, 13), , ,

, (16).

(24).

, , (en block

resection)

.

CT

, , , ,

, .

(11, 22, 23). CT , (reproducibility of lymph node classifica-

Fukuya(14) tion)

5mm , 75.2% (16).

(41.8%) ,

, CT ,

(short-to-long axis) , 1997 UICC AJCC

. 4.3 -

5.2mm , 3 TNM (16), 1-6

N1, 7-15 N2, 16 N3

(16, 17). CT . TNM

15

,

5mm TNM ,

. Roder (16)

TNM

TNM .

55% (33/60)

,

,

(slice) ,

.

,

,

.

CT .

UICC/AJCC TNM

CT

,

,

.

.

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Preoperative Lymph Node Staging of Advanced Gastric Cancer with Helical CT: Assessment of New TNM Classification[1]

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Purpose : To evaluate preoperative N staging of advanced gastric cancer(AGC) using helical CT according to the new TNM classification.

Materials and Methods : Helical CT findings of AGCs in N staging were prospectively evaluated and correlated with pathologic staging in 60 patients with AGCs who underwent surgery. In all patients, contrast-enhanced helical CT with 5-7 mm silce thickness and 5-7 mm reconstruction was performed after ingestion of 600-800 ml of water. A total of 150 ml of contrast medium was administered intravenously at a rate of 4 mL/sec and CT scans were obtained 60 seconds after the initiation of intravenous administration of contrast medium. CT nodal status was assessed according to the 1997 UICC/AJCC N staging system as: N0, no lymph node metastasis; N1, 1-6 metastatic regional lymph nodes; N2, 7-15 metastatic regional lymph nodes; N3, more than 15 metastatic regional lymph nodes. Lymph nodes at least 5 mm in short-axis diameter or more than three lymph nodes in a focal area (clustered appearance) regardless of size were interpreted as positive for metastasis.

Results : Of the total 1,334 lymph nodes dissected, 352(26%) were positive for metastasis. The sensitivity of helical CT scans in N staging of AGCs was 61%, specificity was 36%, and overall accuracy was 55% (33 of 60 cases), Nine(15%) cases were overstaged and 18(30%) were understaged.

Conclusion : Our results indicate that the results of helical CT in preoperative N staging of AGCs according to the new TNM classification showed no improvement despite the application of favorable criteria for lymph node metastasis. Further evaluation using various analytic approaches is necessary.

Index words : Stomach, neoplasms
Stomach, CT
Lymphatic system, neoplasms

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