

## CT 1

: CT , CT

: 2 - 14 105 CT

CT , CT

: CT  $70.22 \pm 6.51$  HU, CT  $53.28 \pm 3.0$  HU,

CT  $58.31 \pm 3.57$  HU, CT  $17.13 \pm 6.57$  HU,

CT  $11.88 \pm 5.94$  HU . 7 CT 가

CT CT

: CT  $70.22 \pm 6.51$  HU, CT  $17.13 \pm$

6.57 HU 가 CT 가 CT 가

CT 40 - 70 HU(hounsfield GE Prospeed(GE medical systems, Japan)

units) CT 10 HU (1 - 10 mm , 10 mm (120 kVp,

3). 160 mA), 1 CT win -

가 dow level width 30 HU/200 HU

(1, 4). CT

가, 가 2 level

CT 가 ,

CT 6 CT

CT level

CT  $\times 10$  9 $\times$ 9 CT Pixel 10

CT 가 , CT 60 ,

가 45 , CT CT

가 20 70 HU CT

가 10 HU (1 - 3). CT 가 70

CT 105 HU 70 HU

가 6.96 , 70 HU

5.88 가 ( $p=0.03$ ).

6 7 7

CT 가 70 HU

80 HU , CT 가 10 HU

20 HU

CT T -

86 6.3 (2 - 14)

가 19 , 가

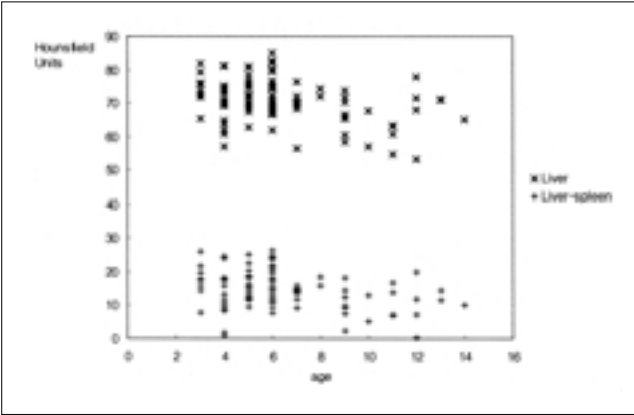
1

2001 9 7 2002 7 23

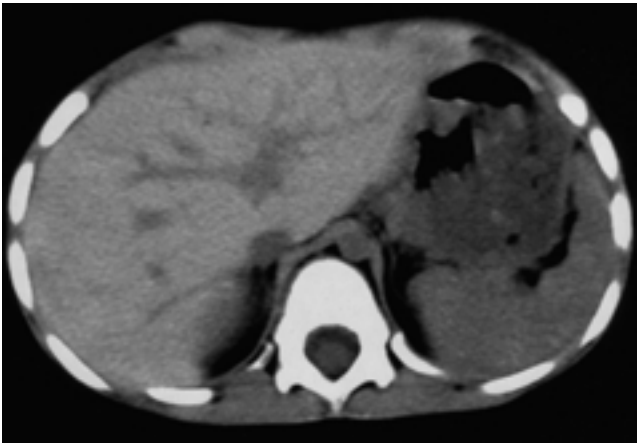
407

test  $p < 0.05$   $\pm$  , 20 HU 37 (35%) 5.28 ,  
 20 HU 6.94 .  
 CT 가 (  $p > 0.05$  )

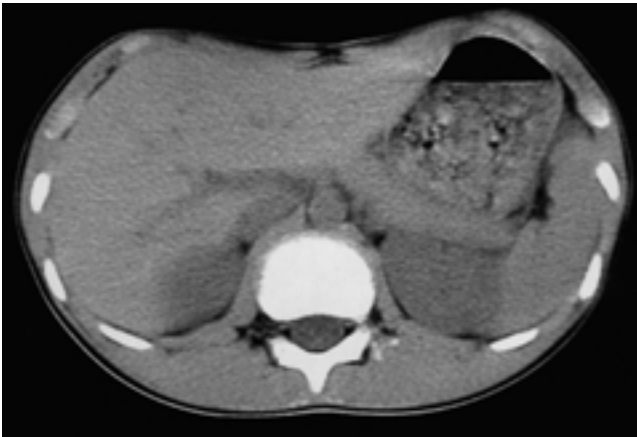
CT 70.22  $\pm$  6.51 HU,  
 CT 53.28  $\pm$  3.0 HU, CT 58.31  
 $\pm$  3.57 HU, CT 17.13  $\pm$  6.57 HU,  
 CT 11.88  $\pm$  5.94 .  
 7 CT  
 CT 가 7  
 (  $p < 0.05$  ).  
 CT , CT  
 가 (  $p > 0.05$  ) (Table 1).  
 CT 가 70 HU 48 (48%)  
 5.88 , 70 HU 6.96 , 80 HU  
 9 (8.5%) 5 , 80 HU  
 6.5 CT 가 70HU  
 (Fig. 1), (Fig. 2).  
 CT 10 HU 91 (87%)  
 6.16 , 10 HU 7.71  
 가 (  $p = 0.12$  ) (Fig. 3), CT 가



**Fig. 1.** CT Numbers vs Children's Age.



**Fig. 2.** Noncontrast CT scan in a 4-year-old boy. CT attenuation of liver is 80.9 Hounsfield unit, and CT attenuation of spleen is 52.8 Hounsfield unit. CT scan shows contrast between liver and spleen.



**Fig. 3.** Noncontrast CT scan in a 11-year-old boy. CT attenuation of liver is 63.25 Hounsfield unit, and CT attenuation of spleen is 56.37 Hounsfield unit.

**Table 1.** CT numbers of liver, spleen and back muscles in children (mean  $\pm$  SD)

CT No.(HU)	Liver	Spleen	Back Muscles	Liver-Spleen	Liver-Muscle
Total	70.22 $\pm$ 6.51 (53.18 - 85.15)	53.28 $\pm$ 3.0 (43.83 - 60.88)	58.31 $\pm$ 3.57 (47.75 - 63.72)	17.13 $\pm$ 6.57 ( - 0.55 - 31)	11.88 $\pm$ 5.94 ( - 2.67 - 25.82)
2 - 6years old	71.7 $\pm$ 5.77 (57.08 - 85.15)	53.47 $\pm$ 2.64 (46.18 - 60.88)	58.32 $\pm$ 3.43 (51.32 - 66.4)	19.27 $\pm$ 6.54 (0.02 - 31)	12.23 $\pm$ 6.57 ( - 2.67 - 25.82)
7 - 14years old	68.13 $\pm$ 6.47 (53.18 - 77.87)	53.08 $\pm$ 3.64 (43.83 - 59.18)	58.32 $\pm$ 3.91 (47.75 - 62.55)	14.89 $\pm$ 5.4 ( - 0.55 - 24.15)	11.46 $\pm$ 4.62 (5.5 - 21.95)
Female	71.13 $\pm$ 4.58 (62.88 - 81.45)	53.08 $\pm$ 2.58 (47.13 - 59.12)	57.7 $\pm$ 2.32 (55.9 - 60.53)	17.15 $\pm$ 5.34 (8.97 - 25.87)	11.37 $\pm$ 4.0 (10.2 - 17.43)
Male	70.18 $\pm$ 6.87 (53.18 - 85.15)	53.3 $\pm$ 3.09 (48.83 - 60.88)	58.42 $\pm$ 3.84 (47.75 - 66.4)	17.13 $\pm$ 6.84 ( - 0.55 - 31)	12.51 $\pm$ 6.38 ( - 2.67 - 25.82)

HU: Hounsfield Units



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## CT Numbers of Liver and Spleen in Normal Children<sup>1</sup>

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**Purpose:** To determine the mean liver CT numbers, and differences between liver and spleen, and liver and back muscle CT numbers in normal children, and to correlate the findings with sex and age.

**Materials and Methods:** One hundred and five normal children aged 2 - 14 years underwent pre-contrast CT scanning. Mean CT numbers of the liver, spleen, and back muscles were calculated, as well as the differences in CT numbers between the liver and spleen (liver-spleen CT numbers), and between the liver and back muscles (liver-back muscles CT numbers). The results were correlated with age and sex.

**Results:** For all children, mean liver, spleen, and back muscle, and liver-spleen and liver-back muscle CT numbers were  $70.22 \pm 6.51$  HU,  $53.28 \pm 3.0$  HU,  $58.31 \pm 3.57$  HU,  $17.13 \pm 6.57$  HU, and  $11.88 \pm 5.94$  HU, respectively. Mean liver CT numbers and the difference between liver and spleen CT numbers were high in children aged less than seven, but mean spleen and back CT numbers, and the difference between liver and back muscle CT numbers were not different by age. By sex, all the CT numbers did not vary according to age. The sex of a subject did not affect the CT number.

**Conclusion:** The children's mean liver CT number was  $70.22 \pm 6.51$  HU and the difference between liver and spleen CT numbers was  $17.13 \pm 6.57$  HU. Younger children had higher liver CT and liver-spleen CT numbers than older children. No CT numbers varied according to sex.

**Index words :** Computed tomography (CT), in infants and children  
Computed tomography (CT), technology  
Liver, CT

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