MDCT 3   [1]

.   .   .

: multidetector CT   3
.

: MDCT   3   67   .   62 ,
5   3- 15 (:7.5)   .   CT   ,
,   .

:   3- 5   , 3   30 , 4   25 , 5   2   .
1   3.4   , 2   3.5 , 3   3.9
.   3   5.4
, 4- 5   8.1   3   4   .
7.0 ,   8.1
. 67   3   9 , 4   5 , 2
2 , 5   1   .

:   3, 4   .
.   3, 4   .

(manubrium),   ,   (xiphoid process)
,   3- 4   .
6   , 2, 3
7   , 4   1   2004   10   2005   3   CT   3
(1- 3).   (3),   67   .   62 ,
(4, 5).   5   3- 15 (:7.5)   .
CT   (sternal   (cosmetic problem)
cleft)   (sternal foramen),   CT   .
(tilted sternum)   (6- 8).   CT   .
CT   GE Lightspeed 8 channel MDCT (GE medical
(9- 12).   MDCT (multidetector CT)   system, Milwaukee, U.S.A.)   5 mm collimation
3   .   , 1.25 mm   window level
MDCT   3   110- 400 HU   3   .
.   CT   ,   ,
.
5   (1   , 33   ), 6- 10   (2   , 16   ), 11- 15 (3   , 18
)   CT
.

2   2 , 3   8   .   3
Kruskal- Wallis test   .

: MDCT 3

3 4 t- (Figs. 1, 2). 3
test . 9 (Figs. 1, 2), 4 5 (Fig. 2), 2 2 , 5
t- test . 1 (Fig. 4) .
(bifid, bisect)
(Fig. 1, 2)
.

, , ,
3- 4 . 6
, 2, 3 7 , 4
3- 5 , 3 30 , 4 25 , 1 . 2
5 2 . 1 . 3 1, 2
3.4 (Figs. 1, 2), 2 3.5 (Figs. 3, 4), 3 3.9 (Figs. 4 , 1- 2
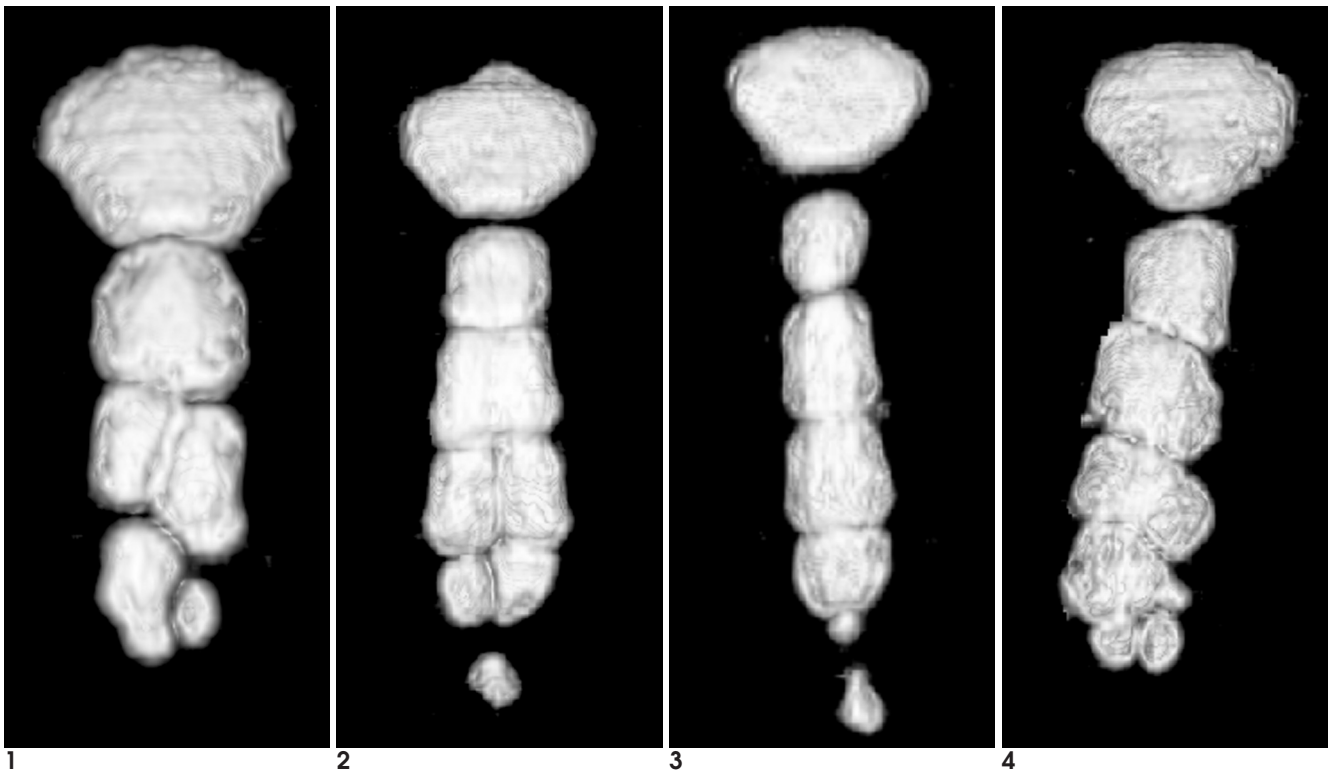5, 6) ($p < 0.05$). . 1 , 1- 2
3 5.4 , (3).
4- 5 8.1 3 4
($p < 0.05$). (4).
7.0 ,
8.1 ($p >$ (5).
0.05). 3- 5 3
67 13 4 2 52.6%, 4 43.9% 3, 4 5
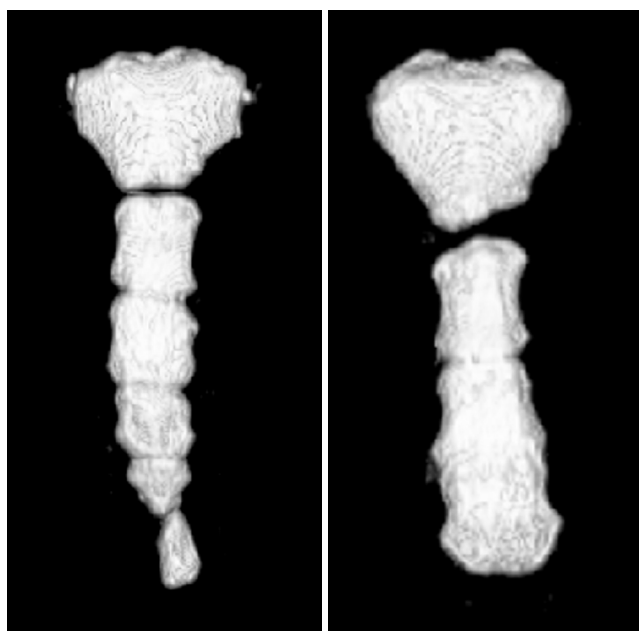

Fig. 1. 3D image of sternum in a 26-month-old boy.
Sternal body has three portions with nonvisualized xiphoid process. The bifid shape of sternal body is shown in the 2nd and 3rd portions.
Fig. 2. 3D image of sternum in a 56-month-old boy.
Sternal body has four portions with a xiphoid process. The bifid shape of sternal body is shown in the 3rd and 4th portions.
Fig. 3. 3D image of sternum in a 71-month-old boy shows five portions of sternal body with a xiphoid process.
Fig. 4. 3D image of sternum in a 117-month-old boy shows five portions of sternal body with a xiphoid process. The bifid shape of sternal body is shown in the 5th portions.

5   **6**

Fig. 5. 3D image of sternum in a 159-month-old girl shows four portions of sternal body with a xiphoid process.
Fig. 6. 3D image of sternum in a 167-month-old boy.
The lower portion of sternal body is fused, and xiphoid process is nonvisualized.

3.5%   .
                    3   5.4
   , 4- 5   8.1   3   4
                         .   4, 5   5-
6   .
                                 7.0   ,
            8.1
          .   5- 17
                              ,   5%
                     (2).

                              .
              3   9 , 4   5 ,
2   2 , 5   1   .
                        3,4

                    .   2
                 .
              ,   CT   4- 5%
                         (12).
                         6- 12
        .   ,
              .   2   2 , 3   8
                                  (Fig. 6).
              3   CT
                     ,
                 .
           .
               3, 4   .

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Three Dimensional Images of the Sternum in Children with Using MDCT[1]

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Purpose: We wanted to analyze the three dimensional images with using multidetector CT scanning of the sternum in children, and we wanted to compare the CT findings with the children's age.

Materials and Methods: We studied the three dimensional images of the sternum of 67 children (62 were boys and 5 were girls). The age of the children was 3- 15 years old (mean age: 7.5). We evaluated the number of sternal bodies, the presence of the xiphoid process and the bifid shape of each sternal body.

Results: The number of sternal bodies was from three to five; 30 patients had 3 bodies, 25 patients had 4 bodies and 5 patients had 2. The number of sternal bodies was 3.4 in Group I, 3.5 in Group II and 3.9 in Group III. As the children's age increased, the number of sternal body was statistically increased. When the number of sternal bodies was three, the mean age of children was 5.4 year; when it was four or five, the mean age of children was 8.1 year. The children's age was increased as the number of sternal bodies increased. The mean age of the children with a xiphoid process was 7.0 years, and the mean age of children without a xiphoid process was 8.1. There was no statistical difference between the two groups with or without xiphoid process. Among the 67 children, 9 had the bifid shape in the 3rd portion of the sternal body, 5 had the bifid shape in 4th portion, 2 had the bifid shape in 2nd portion and 1 had the bifid shape in 5th portion.

Conclusion: The number of sternal bodies was mostly three or four. The number of sternal bodies was related to the children's age. There is no relationship between children's age and the presence of the xiphoid process. The bifid shapes are mostly shown in the 3rd and 4th portion of the sternal body.

Index words : Computed tomography (CT), three-dimensional
Thorax, CT
Children

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