



CT
 :
 1
 (CT)
 가
 CT
 : 2
 CT 가 70
 40 mA CT
 mm , 1 - 1.6 pitch
 1 70 - 85 kVp 30 -
 setting 120 kVp 200 - 220 mA, 5
 CT
 가
 : 70 150
 CT 2 가
 가
 150 95 (63%)
 CT 가 1
 CT CT

(KUB)
 (excretory urography, EU)

CT

(computed tomography,
 (1 - 4).
 CT)

CT

(3 - 5).

가

2

125

CT가

(6),

1

가 가

가

(7).

93

KUB,

. 93 16

가

70 - 85 kVp 30 - 40 mA

, 7

(8),

가

(5).

70

가

CT

가

70

70

38:32

23-77 (45) . EU
 CT 42
 28

가

HiSpeed Advantage CTi standard (General Electric Medical Systems, Milwaukee, WI, U.S.A.)

CT
 . 120 kVp, 200-220 mA, 5-mm
 1.6 pitch, 5-mm
 300-400 HU, 40-60 HU) setting(
 1500 HU, 130-150 HU) CT
 CT

, 1- 70 150

CT
 Table 1

. CT 2

(Fig. 1)



Fig. 1. A 39-year-old man with right flank pain.
A. Pelvis radiograph shows a single phlebolith of 5 mm in diameter with central lucency in right pelvis (thick arrow).
B. Pelvis CT scan obtained using soft tissue window setting shows a phlebolith of 5 mm in diameter in right pelvis (thick arrow) and another small phlebolith in left pelvis (thin arrow). Both phleboliths have no evidence of central lucency.

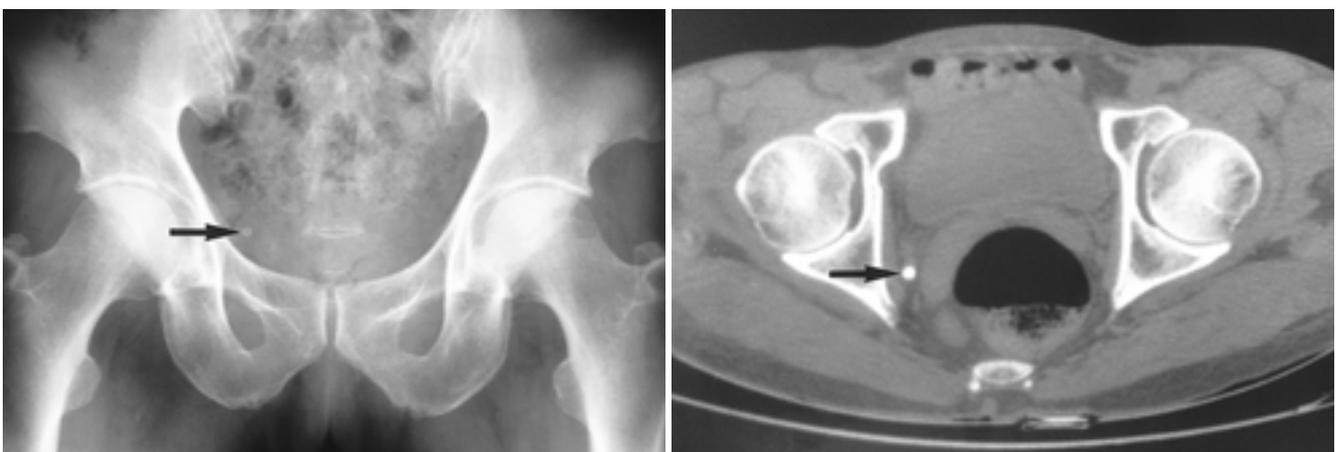


Fig. 2. A 48-year-old man with right flank pain.
A. Pelvis radiograph shows a single phlebolith of 3 mm in diameter with central lucency in right pelvis (arrow).
B. Pelvis CT scan obtained using bone setting shows a phlebolith of 3 mm in diameter with no evidence of central lucency in right pelvis (arrow).

Table 1. Comparison of Plain Radiography and Noncontrast Helical CT on Detected Number and Central Lucency of 150 Pelvic Phleboliths in 70 Patients

	Radiography	CT
Detected number of phlebolith	149	150
Central lucency of phlebolith	95 (63%)	0

가
1-4 (2) , 150
3-7 mm (3.5 mm)
가 가
149 95 (64%)
(Figs. 1, 2). 43
(29%)
(Fig. 3). 11 (7%)
CT setting
가 150 1
(Figs. 1-3).
가 , ,
(appendicolith) (5).
가

CT가 (1-4, 6),
가 (6).
가
가 , ()
가 , (9)
(tissue rim sign) (10, 11)가 CT
가
(tail sign)
(6).
KUB 가 (8).
가 가 CT
가 가 CT
Traubici (5)
CT
가
149

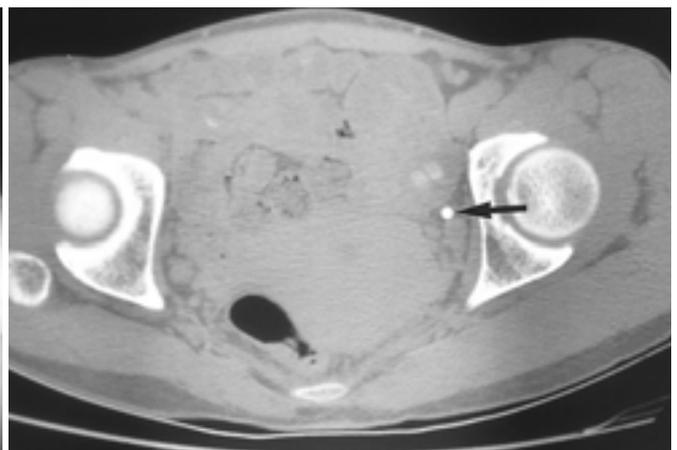
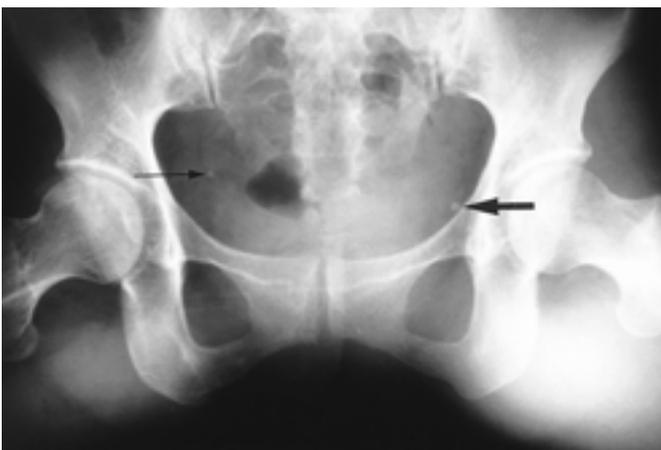


Fig. 3. A 42-year-old woman with left flank pain.
A. Pelvis radiograph shows a radiopaque phlebolith of 3 mm in diameter without central lucency in the left pelvis (thick arrow) and another small nodule on right pelvis (thin arrow). The latter was considered as a bowel content because it was not radiopaque as adjacent bone and it was not shown on CT scan.
B. Pelvis CT scan obtained using bone setting shows a phlebolith of 3 mm in diameter with no evidence of central lucency in left pelvis (thick arrow).

95 (64%) , CT . 1 - 2 mm
 , 120
 가 79 (66%), 가
 CT 1 (0.8%) Trau - bici
 (5) CT CT
 Traubici CT
 Culligan
 (nucleus) (12).
 , CT 가
 (5). 가
 가
 CT 가
 가 (5).
 60 - 70 kVp(가
 70 - 85)가 CT 120 - 140 kVp(가
 120) (12), (photo -
 (Compton) CT (photo -
 electric effect or interaction)가 (5).
 가 가
 CT가 5 mm

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Central Lucency of Pelvic Phleboliths: Comparison of Plain Radiographs and Noncontrast Helical CT¹

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Purpose: Central lucency of pelvic phleboliths is frequently observed on plain pelvic radiographs. When it is also present on noncontrast helical CT images, pelvic phleboliths may be easily diagnosed, with no suspicion of distal ureteral calculi. The objective of this study was to determine the frequency with which this phenomenon is seen on plain radiographs and noncontrast helical CT images.

Materials and Methods: During a recent two-year period we identified 70 patients with renal colic who underwent both abdomino-pelvic radiography and noncontrast helical CT scanning. Radiographs were obtained at 70 - 85 kVp and 30 - 40 mA; CT scans were performed within one month of plain radiography with parameters of 120 kVp, 200 - 220 mA, 5-mm collimation, and pitch of 1 - 1.6, and using soft tissue and bone window settings. With regard to the central lucency of pelvic phleboliths, as seen on both on radiographs and CT images, two experienced radiologists reached a consensus.

Results: Among the 70 patients, a total of 150 pelvic phleboliths was found. In all cases except one, pelvic radiography and noncontrast helical CT revealed the same number of phleboliths. The exception was a case in which one of two phleboliths demonstrated by CT was not seen on radiographs. Pelvic radiography revealed central lucency in 95 of these 150 phleboliths (63%), but noncontrast helical CT failed to depict a hypodense center in any phlebolith.

Conclusion: Central lucency of pelvic phleboliths, as frequently seen on plain pelvic radiographs, was not revealed by routine noncontrast helical CT in any patient. The presence or absence of central lucency on these CT images cannot, therefore, be used to differentiate phleboliths from distal ureteral calculi.

Index words : Pelvis, radiography

Pelvis, CT

Veins, CT

Ureter, calculi

Ureter, CT

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08:30 - 09:00	Registration	
09:00 - 09:25	Respiratory distress in newborn and infants	()
09:25 - 09:50	Thoracic neoplasms in children	()
09:50 - 10:20	Congenital heart disease with cyanosis	()
10:20 - 10:40	Coffee Break	
10:40 - 11:10	Normal chest radiograph & pitfall in adults	()
11:10 - 11:40	Smoking - related lung diseases	()
11:40 - 12:10	Chronic interstitial pneumonia	()
12:10 - 13:10	Lunch	
13:10 - 13:40	BOOP & Bronchiolitis	()
13:40 - 14:10	Occupational lung diseases	()
14:10 - 14:40	Lymphoproliferative disorder of the lung	()
14:40 - 15:00	Coffee Break	
15:00 - 15:30	Pulmonary vasculitis	()
15:30 - 16:00	Thoracic manifestations associated with advanced liver disease	()
16:00 - 16:30	Mediastinal lymphadenopathy	(가)

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