

Journal Meeting

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REVIEW

Plain abdominal radiography in acute abdominal pain; past, present, and future

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Overview

- In ED, acute abdominal pain: 4~10%
- How to work up? Hx, P.E., Lab data is not reliable => image study
- review study
- Time point: 1972, 1992, 2007
- Patient: acute abdominal pain patient in ED

Overview

- 1972: only X-ray (43%)
- 1992: X-ray (30%), CT & echo (6.8%)
- 2007: X-ray (21%), CT& echo (42%)
- 1992: spent 2.9 hours
- 2007: spent 4.26 hours
- With CT: 6.64 hours, without CT: 3.44 hours
- Accuracy improved: 1992: 41.3% Non Specific Abd Pain; 2007: 21.1%

Place of Plain abd X-ray

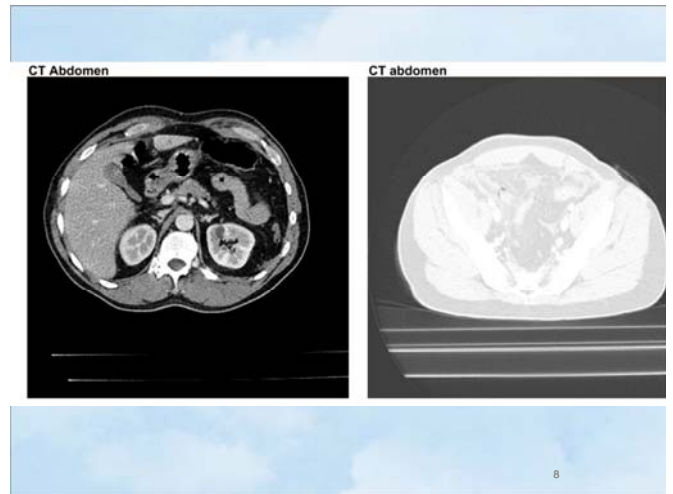
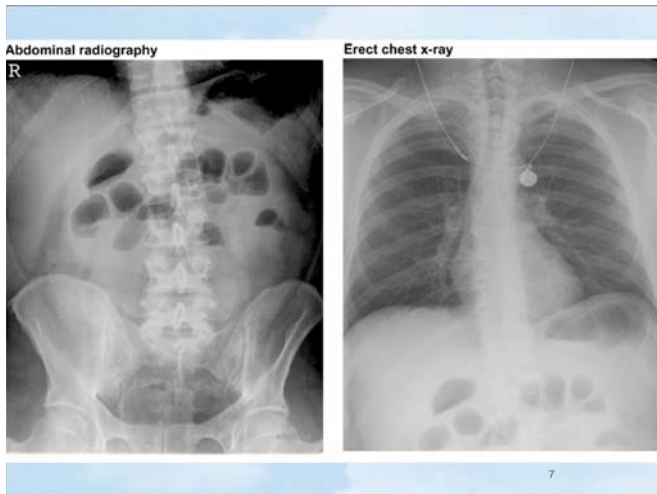
- Standard abd radiography:
 - supine abd view + rect chest film + upright abd view
- 比較initial Dx by P.E, X-ray & final Dx 僅49%相符 (502/1021)
- 比較Dx by X-ray & final Dx 僅50%相符 (514/1021), 117人有因X-ray更改診斷,但只有39個(22%)是正確的
- 70~80% X-ray no finding, 10% with finding
- When to order X-ray?
- Suspect perforation, renal stone, bowel obstruction, foreign body ingestion

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Detection of free air and perforated viscus

- Missed case: technical imperfection
- Only 51% accuracy in one study
- L't decubitus > CXR > abd plain film
- Sensitivity: CT > echo > X-ray
- No place for X-ray

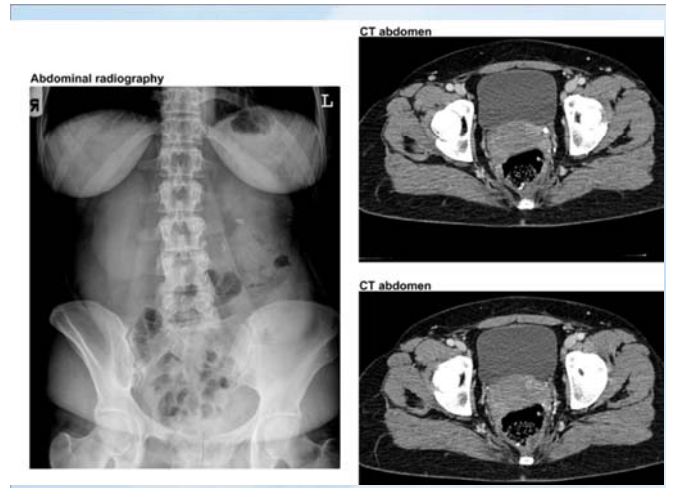
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Detection of urinary tract stones

- Sensitivity range: 44~77%
- Specificity: 80~87%
- CT: more sensitive and get more information (size, location)

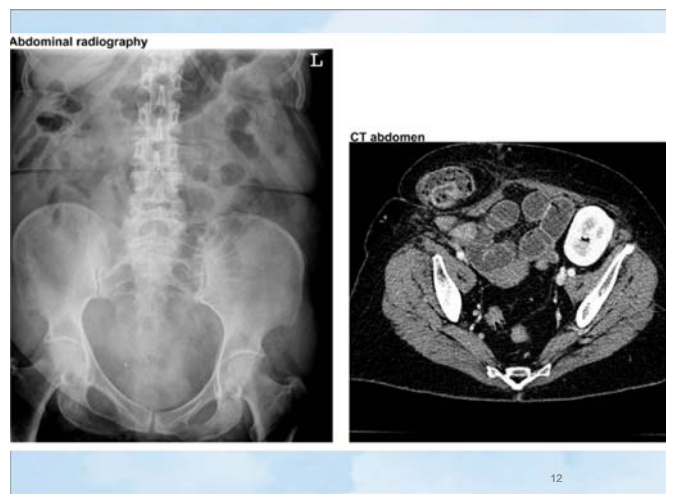
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Bowel Obstruction

- Diagnostic: 50~60%
- Indifferent: 20~30%
- Misleading: 10~20%
- 有研究顯示X-ray診斷率比根據臨床表現診斷率有顯著上升(74% v.s. 57%)，但X-ray後有更改診斷的正確率卻不高
- CT V.S. X-ray:
 - 100% V.S. 46% in total obstruction
 - 100% V.S. 30% in partial obstruction
- CT can get more information (site, reason, other Dx)

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Ingestion foreign body

- Most harmless
- Sensitivity:90%, specificity:100%, but the foreign body has to be radio-opaque.
- No evidence for CT V.S. X-ray, 但CT可提供更多資訊，尤其是計劃要開刀的病人
- If X-ray 看不見但臨床高度懷疑 => CT

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Abdominal radiography



CT abdomen



Conclusion

- Most effective diagnostic strategy:
- Echo in all p't with abdominal pain and CT in inconclusive or echo negative p't
- CT needed in only 49% p't
- A new test function：取代舊檢查，比舊檢查更進階，用來Triage => if X-ray is a new test ?? => no place

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Thanks for your attention!

BRIEF REPORT

Ultrasound-guided, Bougie-assisted Cricothyroidotomy: A Description of a Novel Technique in Cadaveric Models

Keith Curtis, MD, Matthew Ahern, DO, Matthew Dawson, MD, and Michael Mallin, MD

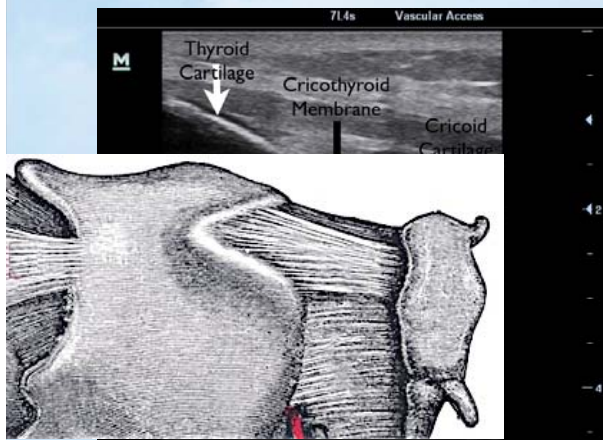
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Background

- Confirm the ETT site: Echo比上Capnography有98.2%準確率
- Bougie-assisted cricothyroidotomy比起傳統方法有更高的成功率
- 有研究顯示超音波引導下的trachea puncture在所有的屍體model都成功放入wire
- 如何應用超音波提高成功率？？

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Method



Study design

- 21 Model: 12F & 9M
- 2 operator: ER attending & ER R2
- Model exclude: previous neck incision, <18y/o

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Result

- Identify cricothyroid membrane: 3.6s
- ETT intubated: 26.2s
- failure: 1/21
- Largest model BMI 44.9, pretracheal tissue 1.74cm: 37s

Table 1
Weight, BMI, Time to Identification of the Cricothyroid Membrane, and Time to Completion of the Procedure

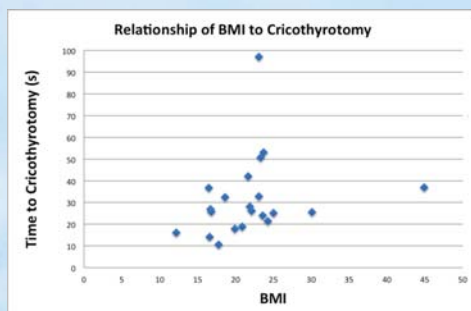
	n	IQR				
		Min	0.25	Median	0.75	Max
Weight (lbs)	20	90	112.5	132.5	165.0	270.0
BMI	21	12.2	17.8	21.9	23.6	44.9
Time to visualizations (seconds)	21	1.9	2.5	3.6	8.3	15.3
Time to completed cricothyrotomy (seconds)	21	10.7	21.4	26.2	36.7	97.0

Data are reported as a median (IQR).
BMI = body mass index; IQR = interquartile range.

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Discussion

- 速度和BMI無明顯相關



Discussion

- 雖然多一個步驟，但速度在正常anatomy人身上並沒有較慢，在困難case速度較傳統方法快
- Operator depended?
- Limitation: small group, 沒計算echo setting時間, Model變成活人是否會變得困難, 須更多的operator test以確定是否通用

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Conclusion

- Echo guided bougie-assisted cricothyroidotomy is a new technique which is quick and accurate
- Further study needed to compare with surgical cricothyroidotomy

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- Thanks for your attention !

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