## Relevance of systematic abdominopelvic ultrasound in suspected child abuse in children under 2 years of age: review of 15 years of experience

### **A. Martin-Champetier**<sup>1</sup>, K. Chaumoitre<sup>2,3</sup>, P. Petit<sup>1,4</sup>, A. Dabadie<sup>1</sup>

<sup>1</sup> Service de Radiologie Pédiatrique et Prénatale, Hôpital Timone enfants, APHM, Marseille.
<sup>2</sup> Service d'imagerie médicale, APHM, Hôpital Nord, Chemin des Bourrellys, 13015, Marseille.
<sup>3</sup> UMR 7268 ADÉS, Aix-Marseille Université-EFS-CNRS, Faculté de Médecine de Marseille.
<sup>4</sup> Équipe d'Accueil 3279 - IFR 125, Aix-Marseille Université, Faculté de Médecine de Marseille.







European Society of Paediatric Radiology

## Introduction





### New SFIPP guideline in 2009:

### Systematic abdominopelvic imaging (CT scan or ultrasound) in any child under two years of age suspected of being abused

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# Material and Methods



**Descriptive study** 

Retrospective

Conducted in the 2 pediatric hospitals of the Assistance Publique des Hôpitaux de Marseille (APHM)

From January 1, 2006 to December 31, 2020

**Inclusion criterion:** all children from 0 to 24 months of age suspected of being abused

Exclusion criterion: none

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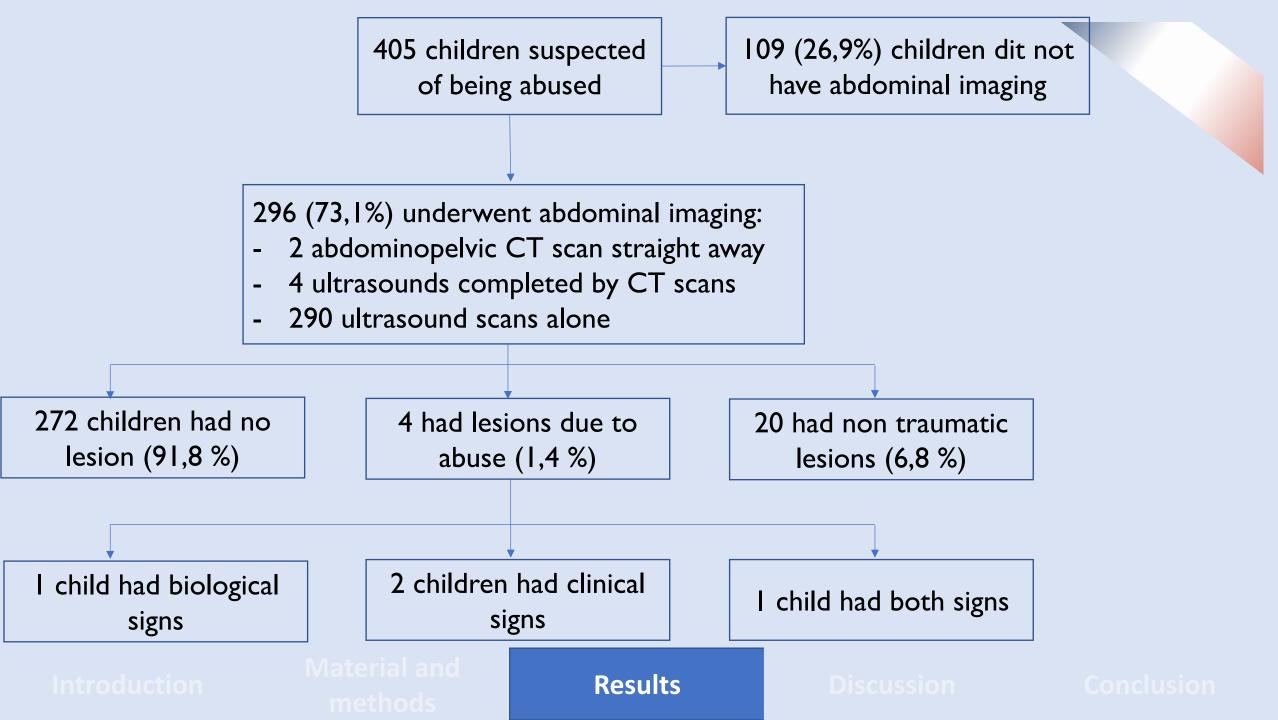
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# Results





	Patient 1	Patient 2	Patient 3	Patient 4
Gender	Male	Male	Female	Male
Age (months)	24	2	16	22
Clinical signs	None	Inguinal and abdominal hematomas	Surgical abdomen with vomiting and rectal bleeding	Fever and pain in the right hypochondrium with multiple parietal hematomas
Biological signs	Elevation of liver enzymes at 24 times normal and hyperlipasemia at 4 times normal	None	None	Elevation of liver enzymes at 10 times normal
Abdominal imaging	Whole body CT scan: AAST grade III hepatic lacerations	scan: hematoma	Abdominal Xray completed by US and CT scan: pneumoperitoneum linked to a rectal perforation	Ultrasound completed by CT scan: contusion of the hepatic dome with peritoneal effusion

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## Discussion



## Abdominal imaging methods in the context of suspected child abuse are not clearly codified

#### - Literature data:

- Systematic assay of AST, ALT (threshold > 80 IU/L) and lipase (> 100 IU/L)
- Abdominal imaging is performed in case of clinical or biological signs
- USA, UK, GB, Australia, New Zealand: injected abdominopelvic CT scan in case of clinical or biological signs
- European countries and South Korea:
  - Ultrasound is the first line in case of weak suspicion
  - CT scan in case of clinical and biological severity criterion or ultrasound abnormal findings

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### In our population :

Abnormalities related to mistreatment were found in 4 patients out of 296 (1.4%)

Those 4 children all had clinical or biological signs, thus an abdominal imaging would have been indicated

Only 31 children had clinical or biological signs: we could have spared 265 children having an ultrasound examination

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### • Strengths :

- First study to assess the value of a systematic abdominal imaging in suspected child abuse
- Large population

### • Weaknesses :

- Retrospective study
- Only 296 children out of 405 (73%) underwent abdominal imaging

**Discussion** 

• Few abnormal scans compared to literature

## Conclusion



In retrospect, the use of abdominal ultrasound as a routine screening method has been of little help

The normality of all ultrasound scans in patients without clinical or biological signs performed in our study argues for its elimination as part of a systematic assessment

Abdominal imaging in children under 2 years of age suspected of abuse should be performed only if there are clinical or biological abnormalities

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# Questions ?

antoine.martin-champetier@ap-hm.fr

alexia.dabadie@ap-hm.fr

## Hôpitaux Universitaires de Marseille

