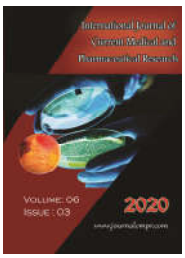
INTERNATIONAL JOURNAL OF CURRENT MEDICAL AND PHARMACEUTICAL RESEARCH
ISSN: 2395-6429, Impact Factor: 4.656
Available Online at www.journalcmpr.com
Volume 6; Issue 03(A); March 2020; Page No. 5031-5033
DOI: http://dx.doi.org/10.24327/23956429.ijcmpr202003857



Research Article

HAMMAN'S SYNDROME (SPONTANEOUS PNEUMOMEDIASTINUM): ABOUT TWO CASES AND REVIEW OF THE LITERATURE

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ARTICLE INFO

Article History:
Received 12th December, 2019
Received in revised form 23rd January, 2020
Accepted 7th February, 2020
Published online 28th March, 2020

Key words:
spontaneous pneumomediastinum, hamman syndrome

ABSTRACT

Pneumomediastinum spontaneous is defined by the presence of air in the mediastinum outside a traumatic, surgical context, and in the absence of underlying pulmonary pathology.
We report the case of two patients who presented spontaneous pneumomediastinum.
CaseN1: 23-year-old, no pathological history, 10th week of the pregnancy, who presents epigastralgia with vomiting and puffiness of the face evolving since 3 days. The clinical examination objectifies an subcutaneous emphysema at the level of the face and of the blow. The biological assessment was normal. Chest CT scan showed a showed a pneumomediastinum with presence of air in the pulmonary interstitium associated with subcutaneous emphysema extending to the deep spaces of the face. The spontaneous pneumomediastinum syndrome was retained. The management consisted of symptomatic measures with good evolution.
CasN2 : 20-year-old, no pathological history, who comeswith retro-sternal pain, dyspnea, preceded by coughing.The clinical examination found diffuse subcutaneous mph. Biology has been normal. Chest CT scan showed a pneumomédiastinum with pneumothorax.
The spontaneous pneumomediastinum syndrome was retained. The management consisted of symptomatic measures with good evolution.
Discussion: Spontaneous Pneumomediastinum is a rare entity; it is a diagnosis of elimination that should be retained only after eliminating a rupture of the esophagus which is an extremely urgent life-threateninpatient.

INTRODUCTION

Spontaneous pneumomediastinumis defined as the presence of air in the mediastinum outside of a traumatic, surgical context, and in the absence of underlying pulmonary pathology.

The Clinical Presentation combines chest pain, dyspnea and subcutaneous emphysema; the main risk is to confuse this entity with an esophageal rupture syndrome (Boerhaave Syndrome) which is life-threatening.

In this work, we report two observations from two patients who presented with a spontaneous pneumomediastinum.

Observation N 1

It is Mrs. XX aged 23, with no particular pathological history, pregnant with 10 weeks and who has epigastralgia with vomiting and puffiness of the face evolving for 3 days, the clinical examination finds a stable patient, in good general condition, apyretic with diffuse subcutaneous emphysema in the face and neck.

The biological analysis was normal without inflammatory syndrome or hydro-electrolyte disorder. The cervico-thoracic CT is carried out without injection of the product of contrast after an informed and signed consent of the patient; the latter showed a pneumomediastinum with the presence of air in the pulmonary interstitium associated with a diffuse subcutaneous emphysema extending to the deep spaces of the face (Fig1), without other signs, notably no infiltration of mediastinal fat.

The hypothesis of a rupture of the esophagus suspected given the context of vomiting, but it is abandoned given the absence of signs of clinical worsening, the normal biological analysis and the CT scan aspect.

Spontaneous pneumomediastinum syndrome was retained. The patient's care consisted of hospitalization in the intensive care unit, oxygen therapy with close monitoring, the development was marked by good clinical improvement.

Observation N 2

This is a 20-year-old patient, with no particular pathological history, admitted to the emergency room for retro-sternal chest pain without radiation, with dyspnea, preceded by coughing. The clinical examination found a patient in good general condition, without signs of shock, normal physiological

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constants, with palpation a diffuse emphysema subcutaneous. Biology has turned out to be normal. Cervico-thoracic CT showed a pneumomediastinum associated with a pneumothorax with visible subcutaneous emphysema at the level of the face, the cervical region and at the level of the thoracic and abdominal wall Fig (2).

The diagnosis of spontaneous pneumomediastinumwas accepted from the outset in the absence of any sign of severity and the absence of a site reminiscent of esophageal rupture. The management was symptomatic marked by a good development.

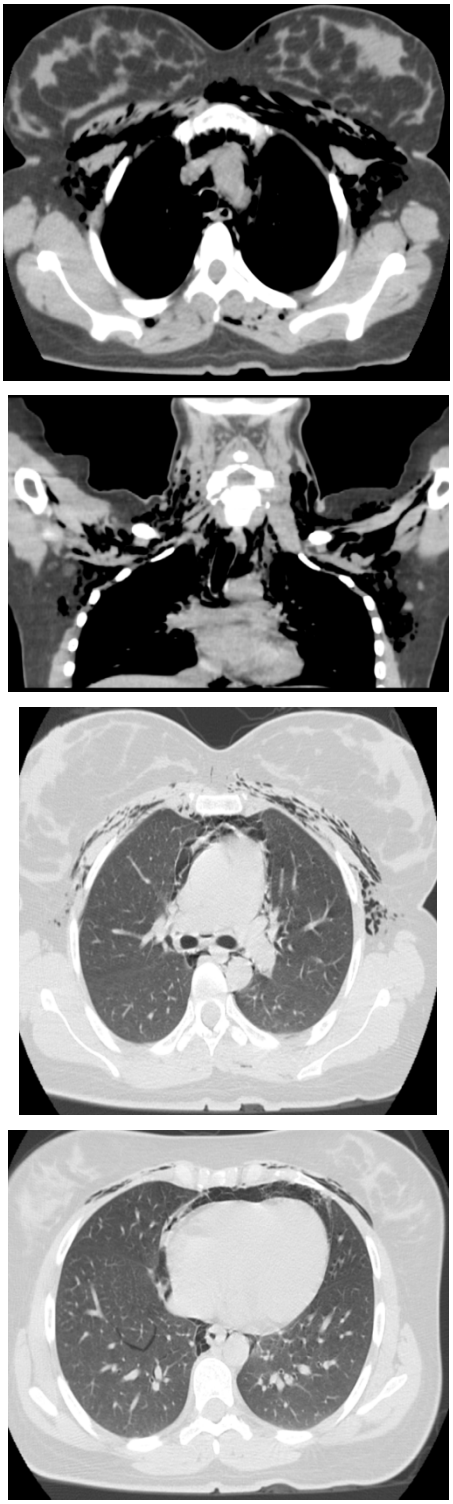

Fig 1 CT scan of the 1st patient in axial section with coronal reconstruction: pneumomediastinum with subcutaneous emphysema, note the air that dissects the pulmonary interstitium (arrow)

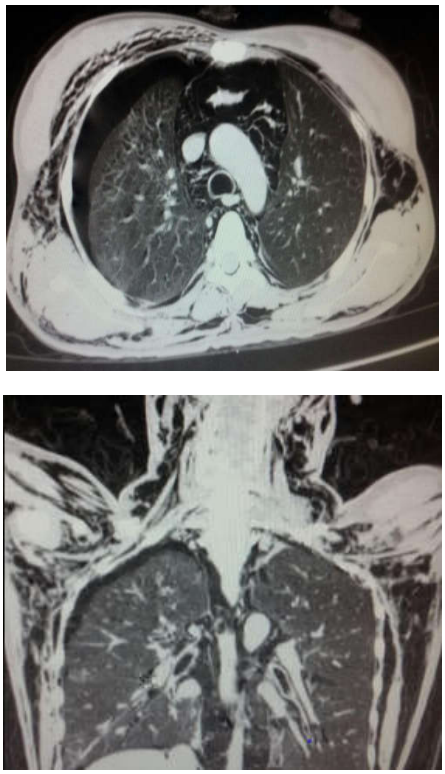

Fig 2 CT scan of the 2nd patient in axial section with coronal reconstruction: pneumomediastinum, pneumothorax and subcutaneous emphysema association.

DISCUSSION

Spontaneous pneumomediastinum (PMS) was described in 1936 by Hamman who gave it its name "Hamman syndrome" [1]; It is defined by the presence of air in the mediastinum in the absence of known pulmonary pathology, surgical intervention, trauma to the chest or mechanical ventilation [2]. In 1944 Macklin proposed a theory explaining the pathophysiology of this entity. following the bronchovascular grid to finally reach the subcutaneous tissues where the pressure is lower [3].

The peneumomediastinum affects the young man, smoker [4], The risk factors incriminated in the occurrence of this pathology are tobacco, inhaled drugs, asthma. A triggering event found in 60% of cases, such as physical exertion, cough or vomiting [4].

The clinical presentation of PMS is dominated by chest pain in general retro sternal without significant radiation, associated with dyspnea. The clinical examination found a patient without sign of shock, with cervical emphysema subcutaneous [5]. Hamman's sign is found in 30% of cases, it corresponds to a friction noise on cardiac auscultation which is pathognomonic of the pneumomediastinum [4].

The chest X-ray reveals the pneumomediastinum as well as a subcutaneous emphysema at the level of the neck and next to the shoulders [6]. Thoracic CT is the examination of choice because it makes it possible both to diagnose pneumomediastinum, even minimal, and also to rule out an underlying pulmonary pathology [7]. The scanner also highlights other associated locations, notably the pneumorachis, pneumopericardium and pneumothorax [8].

Spontaneous pneumomediastinum is a benign and rare pathology, its main differential diagnosis is esophageal rupture syndrome also called Boerhaave syndrome [4]; it is often

suspected in the presence of vomiting associated with dysphagia, fever and an inflammatory syndrome, the scanner with opacificationof the esophagus by gastrographin is generally sufficient to make the diagnosis by showing the esophageal breach with extravasation of PDC , or indirect signs such as pneumomediastinum, peri-esophageal edema and signs of mediastinitis [9, 10]; a normal CT scan and a strong suspicion of esophageal rupture should lead to the achievement of an esophageal transit to gastrographin [4]. The management of spontaneous pneumomediastinum consists of hospitalization with close monitoring, analgesia and prophylactic antibiotic therapy [5] as well as the introduction of 100% oxygen which promotes regression of the pneumomediastinum [2]. Clinical and radiological improvement is generally seen between 1.8 and 2.2 days [2].

CONCLUSION

Spontaneous pneumomediastinum is a rare and benign pathology affecting young adults, its diagnostic and therapeutic management is simple, however the presence of signs of severity must lead to the search for a Boerhaave syndrome whose mortality remains still high.

Bibliography

1. Hamman L. Spontaneousmédiastinalemphysema . Bull Jhons Hopkins hosp 1939 ; 64 :1-21
2. Sung H k, June H, Jinyoung S *et al*. Spontaneous Pneumomediastinum : A rare Disease associated with chest pain in adolescents. Yonsei Med J 2015 ; 56(5) ; 1437-1442
3. Macklin MT, Macklin CC. Malignant intestitial emphysema of the lungs and mediastinum as an important occult complication in many respiratory diseases and other conditions : interpretation of the clinical literature in the light of laboratory experiment . Medicine 1944 ; 23 :281-358
4. Lebecque M, Michelin F, Taifas A, *et al*. Le pneumomédiastin spontané, un diagnostic différentiel rare et bénin du syndrome de Boerhaave. A propos d'un cas. Jouranleuropée des urgences et de réanimation (2014) 26, 58-62
5. Soo Jin Park, M.D, Ji Ye Park, M.D, Joonho Jung, M.D *et al*. Clinical manifestations of spontaneous pneumomediastinum. Korean T ThoracCardicascSurg 2106 ; 49-291
6. Kara H, GaziUyar H, Degirmenci S *et al*. Dyspnoea and chest pain as the presenting symptoms of pneumomediastinum : Two case and review of the literature. CVJ Africa 2015 Nov-Dec; 26(6): e1–e4.
7. Martins L, Dionisio P, Moreira S *et al*. An Unusual Association in an Uncommon Disease :Towe cases of spontaneous Pneumomediastinum Associated with pneumorachis. Case repport in pneumology ; volume 2016, article ID5092157 ; 3 pages.
8. Gerazounis M, Athanassiadi K, Kalantzi N, Moustardas M. Spontanouspneumomediastinum : a rare benign entity . J Thoraccardiovascsurg 2003 ; 126 : 774-6
9. Newcomb AE, Clarke CP. Spontaneous pneumomediastinum : a benign curiosity or a significant problem ? chest 2005 ; 128 : 3298-302.
10. DayenC ,Mishellany H, Hellmut D, Mayeux I *et al*. La rupture spontanée de l'œsophage ou syndrome de Boerhaave. A propos de 3 cas et revue de la littérature. Rev Mal respir 2001 ; 18 : 537-40

How to cite this article:

M.Badraoui, A.Zourair, A.Ouakrim, H. Rebahi, AR. El Adib and S.ALJ (2020) 'Hamman's Syndrome (Spontaneous Pneumomediastinum): About Two Cases And Review Of The Literature', *International Journal of Current Medical and Pharmaceutical Research,* 06(03), pp 5031-5033.

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