A Unique Case of Quincy Complicated by Complete Heart Block and Ventricular Tachycardia: A Case Report

Corresponding Author:
Dr. Mohsin A Hussain,
ST3 Cardiology, Cardiology, luton and dunstable hospital, 42 church road west, gu14 6qg - United Kingdom

Submitting Author:
Dr. Mohsin A Hussain,
ST3 Cardiology, Cardiology, luton and dunstable hospital, 42 church road west, gu14 6qg - United Kingdom

Article ID: WMC003001
Article Type: Case Report
Submitted on: 16-Feb-2012, 06:19:15 PM GMT  Published on: 17-Feb-2012, 10:04:31 AM GMT
Article URL: http://www.webmedcentral.com/article_view/3001
Subject Categories: CARDIOLOGY
Keywords:

How to cite the article: Hussain M A. A Unique Case of Quincy Complicated by Complete Heart Block and Ventricular Tachycardia: A Case Report . WebmedCentral CARDIOLOGY 2012;3(2):WMC003001

Copyright: This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.
A Unique Case of Quincy Complicated by Complete Heart Block and Ventricular Tachycardia: A Case Report

Author(s): Hussain M A

Abstract

Introduction: A peri-tonsillar abscess, also known as quincy, is a condition which can present as a sore throat and represents collection of pus in the peri-tonsillar space. Treatment involves drainage of the abscess and completing a course of antibiotics. We describe a novel case whereby a patient diagnosed with quincy also suffered with complete heart block and non sustained ventricular tachycardia. The rhythm disturbances observed resolved once the quincy was treated.

Case presentation: We present a case of an 89 year old caucasian lady who presented to hospital and diagnosed with a peri-tonsillar abscess. She was found to be in complete heart block that degenerated in runs of non sustained ventricular tachycardia. The non sustained ventricular tachycardia was associated with haemodynamic compromise and therefore a temporary pacing wire was inserted in addition to loading with intravenous amiodarone. The ears, nose, and throat team (ENT) drained the abscess and prescribed a course of antibiotics. Following treatment of the abscess the heart rhythm problems resolved and the patient was discharged home.

Conclusion: A clear temporal relationship was observed between the onset of the quincy and the rhythm disturbances. We conclude the peri-tonsillar abscess had a local effect on the vagus nerve and resulted in complete heart block which in turn degenerated into runs of non sustained ventricular tachycardia. This is a rare but important phenomenon as it can have life threatening implications.

Introduction

Peri-tonsillar abscess, also known as quincy, is a complication of tonsillitis with an incidence of 30,000 cases per 100,000 people per year in the United States (1). Quincy occurs if tonsillitis progresses to a collection of pus in the peri-tonsillar space. The symptoms associated with a quincy can start several days prior to the abscess formation. A unilateral sore throat, fever, malaise, headache and a ‘hot potatoe voice’ are commonly described symptoms. Odynophagia and ipsilateral earache have also been presenting features. Physical signs include erythema, oedema in the tonsillar region of the affected side and swelling of the jugulodigastric lymph nodes. The uvula may be displaced towards the contralateral side as a result of physical compression. Aerobic and anaerobic bacteria can be involved but commonly group A beta-hemolytic streptococcus, staphylococci, or haemophilus are the culprit organisms (2).

Treatment involves drainage of the pus via either a needle or surgical incision and drainage (3). Concomitant antibiotics, usually penicillin, are also used. We present a life threatening case of complete heart block and polymorphic ventricular tachycardia in a patient acutely admitted to hospital with a diagnosis of quincy.

Complete heart block (CHB), also known as third degree heart block, is a condition whereby the sino-atrial (SA) node in the atrium does not lead to coordinated ventricular activity. Instead, the atria and ventricles contract independent of each other at different rates. This manifests itself on an ECG as there being no relationship between the P waves (atrial activity) and the QRS complexes (ventricular activity). Coronary ischaemia is a common cause of CHB. Typically involvement of the right coronary artery is the culprit as this artery supplies the AV node. Autoimmune phenomenon and lymes disease have also been implicated.

CHB will usually require insertion of a permanent pacemaker but in the acute setting temporary pacing is required as a bridging measure if haemodynamic instability occurs; transcutaneous pacing or the insertion of a temporary pacing wire into the right ventricle are all possible strategies. CHB can sometimes lead to a very malignant arrhythmia called ventricular tachycardia (VT). VT is a life threatening arrhythmia requiring urgent attention.
Case Report

We present a case of an 89 year old Caucasian lady seen by her general practitioner (GP) and diagnosed with a peri-tonsillar abscess. She was therefore referred to ENT for drainage of the quincy and antibiotics. Whilst being assessed in the accident and emergency department the ENT team confirmed the diagnosis of quinsy but also noted a heart rate of 31 beats per minute and therefore requested a cardiology opinion.

Whilst being assessed the heart rate on the cardiac monitor fluctuated between 30 and 180 beats per minute. The cardiac monitor revealed asymptomatic intermittent CHB and also non sustained VT with an associated fluctuating level of consciousness. There was no history of chest pain or shortness of breath. A bolus of magnesium sulphate was administered and the patient transferred to the coronary care unit for insertion of a temporary pacing wire and administration of intravenous amiodarone through a central line. Intermittent pacing was required for the next 18-24 hours and the frequency of non sustained VT decreased over this interval also.

A CT scan of the neck was performed with the following result: ‘There is a significant soft tissue swelling in the right peri-tonsillar region consistent with the clinical diagnosis of quincy. The left tonsil is normal. The swelling in the right para-tonsillar region crosses the midline.’

The ENT team then aspirated the abscess and recommended a course of antibiotics. Two days later the patient was much improved and the temporary pacing wire was removed along with amiodarone being discontinued.

An ECG (figure 3) returned to normal and a 24 hour tape did not reveal any rhythm disturbance.

Discussion

The CT of the neck confirmed a right peri-tonsillar soft tissue swelling that crossed the midline and was therefore of a significant size. The parapharyngeal space houses the vagus nerve and we postulate the CHB was induced by the effect of the peri-tonsillar abscess on the vagus nerve. The CHB then degenerated into runs of NSVT.

An argument could be made the CHB and NSVT was due to coronary ischaemia. The patient did go on to have a nuclear medicine myoview scan two weeks later to exclude an ischaemic component to her aetiology of CHB and VT. No electrolyte imbalance was identified on the blood tests and therefore excluded as a precipitant to the VT.

The nuclear medicine cardiac adenosine stress report is as follows: ‘No scintigraphic evidence of ischaemia or infarction. Left ventricular function is preserved’.

In view of the scan being normal and the existence of a clear temporal relationship between the onset of the peri-tonsillar abscess and the rhythm disturbance we strongly feel the two are linked. Also, the rhythm disturbance improved following aspiration of the quinsy and a course of antibiotics. The raised troponin I of 0.5, mentioned above, was attributed to sepsis and multiple runs of non sustained VT.

Conclusion

A peri tonsil abscess can lead to local effects on surrounding structures, in this case the vagus nerve, and lead to sinister heart rhythms. In this particular case complete heart block degenerating into intermittent non sustained VT was observed. There is very limited literature and no other case reports which have demonstrated a link between quinsy and complete heart block with VT. Admittedly, although a rare phenomenon, we feel an increased awareness amongst general practitioners, ENT, and cardiology doctors would improve our understanding and knowledge base. Ultimately, this would lead to an improvement in the quality of care provided to patients and also patient safety.

References

Illustrations

Illustration 1

Table 1

<table>
<thead>
<tr>
<th>Past Medical History</th>
<th>Drug History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoarthritis</td>
<td>Simvastatin 40mg on</td>
</tr>
<tr>
<td>Cataract</td>
<td>Ferrous sulphate 200mg bd</td>
</tr>
<tr>
<td>Glaucoma</td>
<td>Citalopram 40mg od</td>
</tr>
<tr>
<td></td>
<td>Travoprost eye drops</td>
</tr>
</tbody>
</table>

Social History

Lived alone and was independent.
Illustration 2

Figure 1

Complete Heart Block

Ventricular Tachycardia
**Illustration 3**

**Table 2**

<table>
<thead>
<tr>
<th>Blood results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemoglobin 13.2</td>
</tr>
<tr>
<td>White cell count 19.8</td>
</tr>
<tr>
<td>Platelets 189</td>
</tr>
<tr>
<td>CRP 122.9</td>
</tr>
<tr>
<td>Magnesium 0.94</td>
</tr>
<tr>
<td>Calcium 2.46</td>
</tr>
<tr>
<td>Sodium 134</td>
</tr>
<tr>
<td>Potassium 4.7</td>
</tr>
<tr>
<td>Urea 6.0</td>
</tr>
<tr>
<td>Creatinine 88</td>
</tr>
</tbody>
</table>
Illustration 4

Figure 2. Normal sinus rhythm with first degree heart block
Disclaimer

This article has been downloaded from WebmedCentral. With our unique author driven post publication peer review, contents posted on this web portal do not undergo any prepublication peer or editorial review. It is completely the responsibility of the authors to ensure not only scientific and ethical standards of the manuscript but also its grammatical accuracy. Authors must ensure that they obtain all the necessary permissions before submitting any information that requires obtaining a consent or approval from a third party. Authors should also ensure not to submit any information which they do not have the copyright of or of which they have transferred the copyrights to a third party.

Contents on WebmedCentral are purely for biomedical researchers and scientists. They are not meant to cater to the needs of an individual patient. The web portal or any content(s) therein is neither designed to support, nor replace, the relationship that exists between a patient/site visitor and his/her physician. Your use of the WebmedCentral site and its contents is entirely at your own risk. We do not take any responsibility for any harm that you may suffer or inflict on a third person by following the contents of this website.