Received: 23 October 2020 | Accepted: 22 December 2020

DOI: 10.1002/ccr3.3768

CLINICAL IMAGE

Clinical Case Reports Open Access WILEY

New onset of sinoatrial block in a young patient treated with systemic meglumine antimoniate

Najla Daadaa[1] | **Soumaya Youssef**[1] | **Abdeddayem Haggui**[2] | **Sarra Harbaoui**[1] | **Kahena Jaber**[1] | **Nejib Doss**[1] | **Mohamed Raouf Dhaoui**[1]

[1]Department of Dermatology, Military Hospital of Tunis, Tunis, Tunisia

[2]Department of Cardiology, Military Hospital of Tunis, Tunis, Tunisia

Correspondence:
Najla Daadaa, The Military Hospital, Mont Fleury, 1008, Tunis, Tunisia.
Email: daadaanajla1990@gmail.com

Abstract

The sinoatrial block is a new side effect of meglumine antimoniate. Prompt interruption of the drug results in the normalization of electrographic changes and prevents sudden cardiac arrest.

KEYWORDS

cardiotoxicity, cutaneous leishmaniasis, meglumine antimoniate

1 | CASE HISTORY

Pentavalent antimonials are the treatment of choice for leishmaniasis. It may cause hazardous side effects such as cardiotoxicity. We report a case of sudden sinoatrial block (SAB) type 2 occurring in a young patient treated with systemic meglumine antimoniate (MAT) for cutaneous leishmaniasis, which regresses after stopping the drug.

A 23-year-old man was treated with intramuscularly MAT (20 mg/kg/d of antimony) for cutaneous leishmaniasis. Pretherapeutic investigations did not reveal any significant abnormalities (Figure 1). On the 10th day of treatment, electrocardiogram showed flattened T waves in V3-V4-V5-V6, a corrected QT (QTc) prolongation, and a SAB type 2 (Figure 2). Four days after interrupting MAT, ECG returned to normal (Figure 3). Cutaneous lesions healed progressively.

Cardiotoxicity is among the most serious adverse reactions of systemic administration of MAT. T wave changes are seen in about 50% of patients.[1,2] Serious ECG alterations as elevated or concave ST segment, prolonged QT interval, and ventricular fibrillation are uncommon, occurring in <10% of cases.[1,2] Pathophysiologically, it has been proved that antimonial compounds increase cardiac calcium currents leading to QT prolongation and other electrocardiographic changes.[3]

In our patient, besides prolonged QTc interval and flattened T waves, ECG showed a SAB type 2. To our knowledge, SAB attributed to MAT cardiotoxicity had not been reported yet. ECG normalization is generally observed in a few days to 2 weeks after treatment interruption.[1] Thus, therapy should be discontinued if any sign of cardiotoxicity appears to prevent sudden cardiac arrest.

ACKNOWLEDGMENTS

None.

CONFLICT OF INTEREST

No conflict of interest.

AUTHOR CONTRIBUTIONS

DN: collected clinical data, managed the patient, helped in writing the manuscript, and did literature search. SY: managed the patient, conceptualized the article, and did final proofreading of the submission. AH: was consulted for the electrocardiogram changes and confirmed cardiac abnormalities. SH: helped in writing the manuscript and took clinical pictures. KJ: revised the manuscript. ND and MRD: revised and approved the final version of the manuscript. All authors have approved the final manuscript.

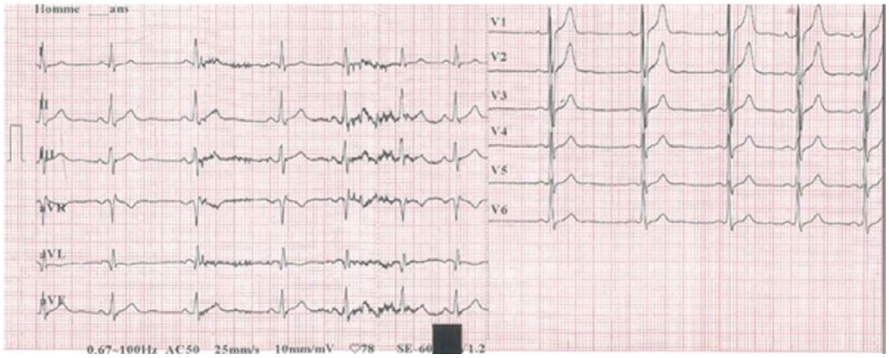

FIGURE 1 ECG before meglumine antimoniate: Positive T waves in V4-V5-V6, QTc = 410 ms, FC = 78 bpm

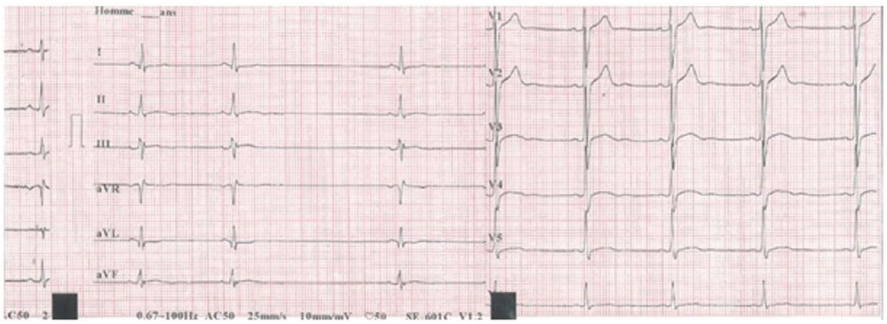

FIGURE 2 ECG after 10 days of meglumine antimoniate: Flattened T waves in V3-V4-V5-V6, sinoauricular block type 2, QTc = 474 ms, FC = 50 bpm

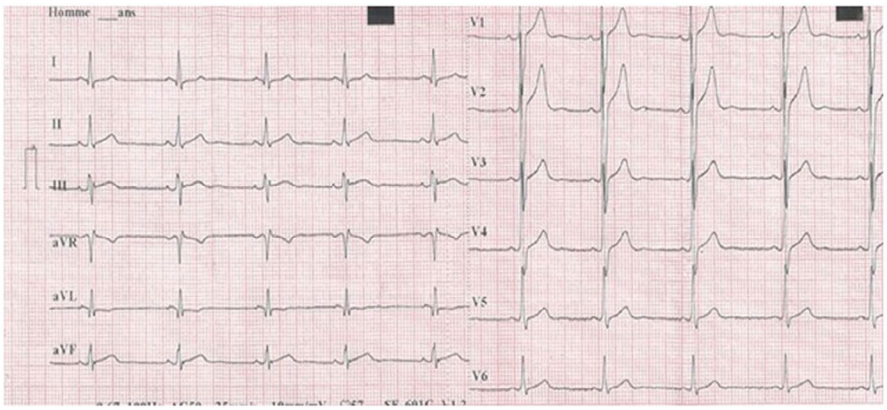

FIGURE 3 ECG 4 days after interrupting meglumine antimoniate: Positive T waves in V4-V5-V6, QTc = 428 ms, FC = 57 bpm

ETHICAL APPROVAL

Appropriate consent has been obtained, prior to submission, for the publication of images and data.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

ORCID

Najla Daadaa https://orcid.org/0000-0001-6205-6737

REFERENCES

1. Matoussi N, Ameur HB, Amor SB, Fitouri Z, Becher SB. Toxicité cardiaque de l'antimoniate de meglumine (Glucantime) à propos d'une obsevation. *Med Mal Infect*. 2007;37:257-259.
2. Sundar S, Probhat R, Nutan KA, et al. A cluster of cases of severe cardio toxicity among Kala –Azar patients treated with a high osmolarity lot of sodium antimony gluconate. *Am Trop Med Hyg*. 1998;59:139-143.
3. Kuryshev YA, Wang L, Wible BA, Yuri A, Wan X, Ficker E. Antimony-based anti leishmanial compounds prolong the cardiac action potential by an increase in cardia calcium currents. *Mol Pharmacol*. 2006;69:1216-1225.

How to cite this article: Daadaa N, Youssef S, Haggui A, et al. New onset of sinoatrial block in a young patient treated with systemic meglumine antimoniate. *Clin Case Rep*. 2021;9:1797–1798. https://doi.org/10.1002/ccr3.3768