

CLINICAL

Atrial Paroxysmal Tachycardia in Dogs and its Management with Homeopathic Digitalis—two case reports

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Homeopathic *Digitalis 6c* was evaluated in two clinical cases of atrial paroxysmal tachycardia in dogs. Tachycardias are common cardiac problems in dogs, and atrial paroxysmal tachycardia is a serious cardiac arrhythmia that may lead to syncope. Both adult dogs (Labrador and German Shepherd) were treated with *Digitalis 6c*, 4 drops orally four times daily for 7 days. Following treatment with *Digitalis 6c* heart rate stabilised and synchronized atrial and ventricular electrical activity was restored in 7 days. *Homeopathy* (2007) 96, 270–272.

Keywords: atrial paroxysmal tachycardia; digitalis; dogs; electrocardiogram

Introduction

Atrial paroxysmal tachycardia is common in dogs and is a serious sign of atrioventricular valvular insufficiency. It may lead to enlargement and stretching of atrial fibers causing edema and foci of inflammation.¹ It has been reported in dogs with aortic body tumors infiltrating the atrial wall^{1,2} or mitral insufficiency. Severe atrial tachycardia causes a fall in blood pressure leading to syncope. Conventional medicine the treatment of choice for atrial tachycardia is digitalis.³ Homeopathic *Digitalis* has also used when the heart is primarily involved with weak and irregular pulse, especially mitral disease in humans.⁴ This prompted us to evaluate *Digitalis 6c* in the management of atrial paroxysmal tachycardia in dogs.

Case History

Case no. 1

A male Labrador, aged 4 years, was presented at Institute's Referral Veterinary Polyclinic (OPD No. 1445 dated 03.09.2005) with the history of weakness,

exercise intolerance, lethargy and easy fatigue for last 3 weeks. The dog was on a vegetarian diet and was regularly dewormed and vaccinated as per the advice of the Veterinarian.

Case no. 2

A female German Shepherd, aged 8 years, was presented at Institute's Veterinary Polyclinic (OPD No. 1609 dated 20.09.2005) with the history of general weakness, dullness, depression, lethargy, change in behaviour and exertion on even normal walking for 100m for about a month. The dog had regular deworming and vaccination.

Clinical examinations

The detailed clinical examination of both dogs revealed weakness, exercise intolerance, lethargy, dullness, depression and easy fatigue on making them walk for 100m. Auscultation of chest revealed a burst of tachycardia. Electrocardiographics (Figure 1) showed increased heart rate (260 and 280 bpm); disturbed atrial:ventricular beat ratio (2:1-3:1); irregular rhythm (R-R interval 0.10–0.32 s); positive P' wave in lead II with a different configuration from that of sinus P waves; normal QRS configuration (R wave 1.3–1.4 mv, QRS 0.03–0.04 s) (Table 1). Coprological and haematological (blood smear) examinations were non-committal.

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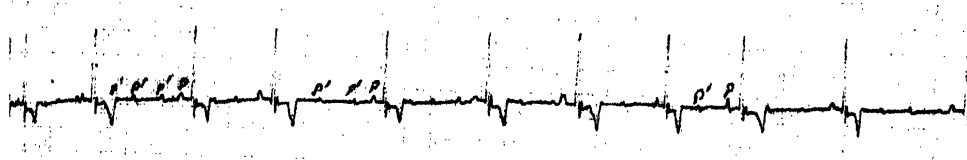


Figure 1 Electrocardiogram of an adult Labrador, 4.5 years old, (OPD No. 1445 dated 3.9.2005) showing paroxysmal atrial tachycardia on day 0. The atrial rate averages (P and P') 300bpm with P' wave different in configuration from sinus P wave and 2nd degree AV block (Mobitz type II). The relationship between atrium: ventricle was 2:1 or 3:1 (2 or 3 P' waves to one sinus P, QRS, T complex).

Table 1 Effect of Digitalis 6C on electro-cardiographic features of dogs with Paroxysmal Atrial Tachycardia

| Electrocardiographic features | Case No. 1 | | Case No. 2 | |
|-------------------------------|---------------|----------------------|---------------|----------------------|
| | Initial 0 day | 7th day post therapy | Initial 0 day | 7th day post therapy |
| Heart rate (bpm) | | | | |
| Atrial rate | 300 | 90 | 160 | 100 |
| Ventricular rate | 080 | 90 | 100 | 100 |
| A: V ratio | 2:1-3:1 | 1:1 | 2:1-3:1 | 1:1 |
| P amp. (mv) | 0.15 | 0.20 | 0.20 | 0.10 |
| P' amp. (mv) | 0.05-0.1 | No P' | 0.05-0.1 | No P' |
| P duration (s) | 0.04 | 0.04 | 0.04 | 0.04 |
| P' duration (s) | <0.04 | No P' | <0.04 | No P' |
| R amp. (mv) | 1.4 | 1.5 | 1.3 | 1.7 |
| QRS duration (s) | 0.04 | 0.04 | 0.03 | 0.04-0.05 |
| S.T seg (s) | 0.05 | 0.05 | 0.02 | 0.04 |
| Q.T. seg (s) | 0.10 | 0.12 | 0.18 | 0.18 |
| R-R interval (s) | 0.72-0.96 | 0.44-1.12 | 0.40-0.52 | 0.44-0.64 |
| P-R interval (s) | 0.08 | 0.08 | 0.09 | 0.10 |
| T amp. (mv) | 0.45 | 0.6 | 0.3-0.5 | 0.4 |
| T duration (s) | 0.04 | 0.06-0.07 | 0.07 | 0.07 |

Treatment

Ocular pressure and a thump on the chest were initially attempted. These failed to restore normal cardiac rhythm, so homeopathic *Digitalis 6c* was then prescribed, at 4 drops orally four times daily for 7 days. Owners were advised to give complete rest to dogs and to avoid any form of exercise for a month. The results with respect to the effect of homeopathic *Digitalis* on electrocardiographic features of the dogs are illustrated in Table 1 and Figure 1.

Discussion

Atrial tachycardia is a rapid regular rhythm originating from a focus away from the SA node. Three or more consecutive atrial premature complexes are considered to be atrial tachycardia.⁵ Since atrial tachycardia in the present cases occurred in burst or paroxysms, P' waves configuration was different and varying in amplitude than the sinus P waves which seems to be multifocal in nature. Identifying paroxysmal atrial tachycardia is usually straightforward owing to visible burst of atrial extra systoles.⁶ The clinical impact of atrial tachycardia depends on its duration, rate and underlying cardiac disease. In allopathic medicine digitalis glycosides, digoxin, and digitoxin are considered potential drug of first choice for the management of atrial tachycardias. Lidocaine

and procainamide have also been reported occasionally successful. In humans calcium blocking agents are commonly used successfully. Therapeutic concentrations of digitalis increase vagal tone, sensitize atrial and ventricular baroreceptors and increase the activity of central nervous system vagal nuclei. The use of digitalis as therapy for sinus tachycardia associated with sick sinus syndrome and atrial fibrillation is controversial. Its toxic manifestations (lethargy, anorexia, vomiting and diarrhoea) are frequent^{7,8} and potassium depletion may occur with chronic therapy.⁸ It was, therefore, considered appropriate to try homeopathic *Digitalis* for the management of atrial tachycardia. It is quite evident from the table that the atrial rate decreased from 300 to 90 (case no. 1), and from 160 to 100 (case no. 2) bpm with an atrial:ventricular rate ratio of 1:1; no P' waves (Figure 2); normal configuration of P and QRS; and normal duration of different waves and intervals with a 7 days therapy with *Digitalis 6c*. Though, improvement in clinical and electrocardiographic indices began on day 3-4 post-therapy, treatment continued till electrocardiographic indices became completely normal. Oral administration of *Digitalis 6c* has shown highly encouraging results in reducing increased heart rate, and altering various electrocardiographic features (Figure 2) and seems in agreement with the recommendations of other authors^{4,9} in management of tachycardias in humans. These authors have described *Digitalis* as a powerful remedy when heart is primarily involved.

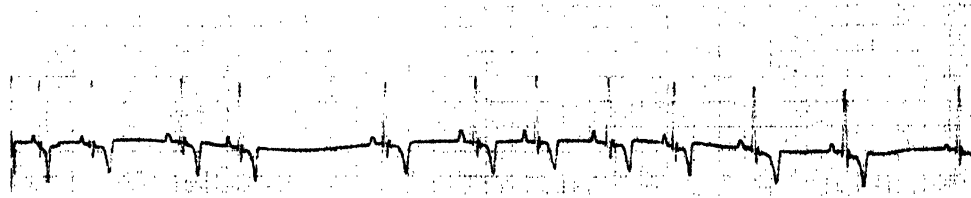


Figure 2 Electrocardiogram of the same Labrador (OPD No. 1445 dated 3.9.2005) taken on 7th day post-therapy with *Digitalis 6C*. The heart beat became regular with 90 bpm and 1:1 ratio of atrium: ventricle beats. There are no P' waves. All are sinus P wave of similar configuration.

Digitalis 6c has shown encouraging results in the management of atrial paroxysmal tachycardia. Large-scale clinical studies are warranted.

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