



THE RALPH®

centre of excellence + compassion



VETERINARY CARDIOLOGY



Pulmonic Stenosis



The stenotic valve causes pressure overload of the right ventricle resulting in right ventricular hypertrophy



PS causes reduced blood flow to the lungs resulting in poor blood oxygenation



If left untreated or in severe cases this may progress to right-sided heart failure, arrhythmias or even death.



BALLOON VALVULOPLASTY

Balloon pulmonary valvuloplasty was first performed in a dog in 1980 and first reported in a child in 1982

Balloon valvuloplasty improves the clinical outcome of human and canine patients with valvular pulmonic stenosis, both with a reduction in clinical symptoms and an improvement in survival.





FLYNN

- ▶ Male entire 9-month-old Bulldog
- ▶ Asymptomatic
- ▶ Systolic grade IV/VI heart murmur with PMI over left base
- ▶ Echocardiography revealed:
 - Pulmonic valve leaflet fused
 - Hypoplastic pulmonary annulus
 - Post valvular stenotic lesion
 - Pressure gradient: 86.2mmHg



A transvalvular pulmonic stent angioplasty was performed using vascular access via the right jugular vein

A 10mm diameter 38mm length premounted balloon-expandible metallic stent was deployed across the pulmonic valve using selective angiography.

The stent was subsequently further dilated using a 14mm diameter high-pressure balloon catheter.

Post procedural chest xrays demonstrated good stent positioning.

Flynn made a smooth uneventful recovery and was discharged the following day.



PHILIPS BV Pulsera

The Ralph Pulsera 9"

Patient

Flynn Dodge

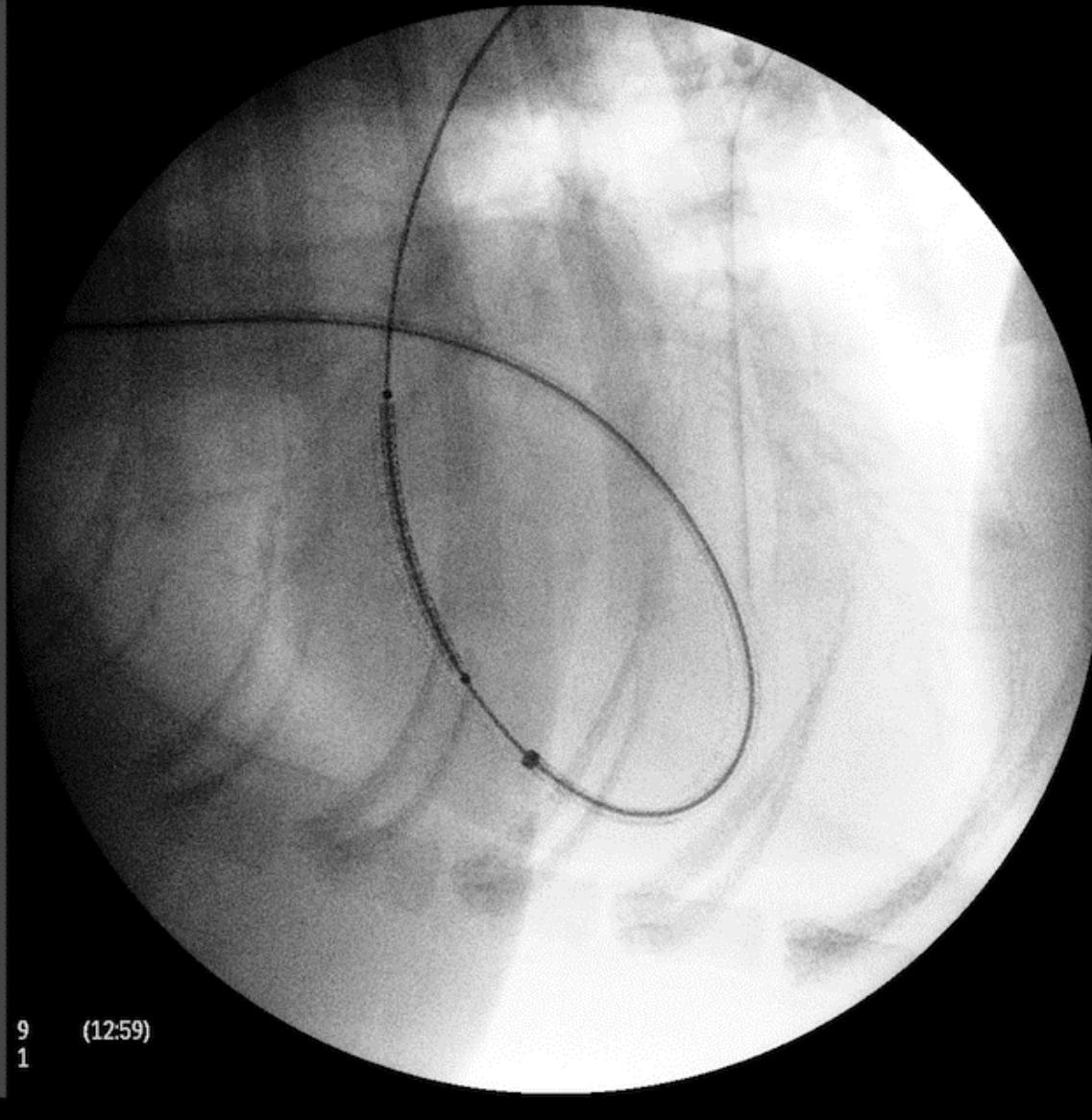
116365

20-07-2021 M

Examination

Cardiac

06-07-2022



9
1 (12:59)



FLYNN DODGE, 12M, N, ID:116365, ACC#R22697

Cardio Canine
PX 1-5 DOG CARDIO

B	Pen-H	G	—
TEI	D 119 mm	X/M	+1/-
PRC	10/3/10	PRS	6

10/08/2022 02:32:02 PM

P	100%	MI	1.4
		TIS	0.6

HR 140



0
5
10



Post procedure check up

Reduction in the pressure gradient across the pulmonic valve

Improved clinical condition: increased vitality !

Reduction of the right ventricular hypertrophy which was evident on the original echocardiography



Transpulmonary Stent Implantation for Dysplastic Pulmonary Valve Stenosis with a Single Left Coronary Ostium and Anomalous Prepulmonary Right Coronary Artery in an English Bulldog

Lauren E. Markovic, DVM, Christopher Whipp, DVM, MS, Keaton Morgan, BVSc, Daniel Almeida, MedVet, MS, and Gurumurthy Hiremath, MD, *Athens, Georgia; Ottawa, Ontario, Canada; and St. Paul and Minneapolis, Minnesota*

enosis (PS) occurs in isolation in 8% to 10% of heart disease in humans and is one of the most congenital heart disease in dogs.^{1,2} Concurrent defects may be detected with PS, including coronary pulmonary course of a coronary artery is a congen-

and neutering. He was adopted 3 months before presentation. Physical examination revealed a grade IV/VI left basilar heart murmur, a normal heart rate of 80 beats/min, and a normal rhythm. His lung sounds were normal, and femoral pulses were normal and synchronous. Systolic blood pressure was considered normal at 140 mm Hg. Transthoracic two-dimensional and Doppler echocardiography

Journal of Veterinary Cardiology (2021) 38, 1–11



Journal of
Veterinary
Cardiology
ESVC

www.elsevier.com/locate/jvc

Transvalvular pulmonic stent angioplasty: procedural outcomes and complications in 15 dogs with pulmonic stenosis

K. Borgeat, BSc, BVSc, MVetMed^{a,*}, S. Gomart, DVM, PhD^b, E. Kilkeny, DVM^c, G. Chanoit, DEDV, MSc, PhD^a, M.J. Hezzell, MA, VetMB, PhD^b, J.R. Payne, BVetMed, MVetMed, PhD^a

^a Langford Vets, University of Bristol, Stock Lane, Lower Langford, North Somerset, BS40 5DU, United Kingdom
^b Bristol Veterinary School, University of Bristol, Stock Lane, Lower Langford, North Somerset, BS40 5DU, United Kingdom



ONE HEALTH

- ▶ The “One Health” concept helps protect the health of all living things
- ▶ Improves the clinical and long-term outlook for some of our wonderful furry friends





One Health, One Heart