

BRISTOL HEALTH DISTRICT (TEACHING)

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Date 6.6.86

From MR J D WISHEART

To

DR JOFFE, DR JORDAN, DR P WILDE,

MR DHASMANA, MR J HUTTER, MR S CHATTERJEE

AND DR SALLY MASEY.

Your ref.

Our ref.

re: THE FONTAN OPERATION.

As you know John Sheridan sadly died at his operation on 2nd June and this has prompted me to put my present thoughts about the Fontan operation on paper, partly in order to clarify my own thinking and partly to promote some discussion which, hopefully, will be constructive. We have now done 7 Fontan operations and have 2 survivors, these came from the first 3 patients. The last 4 have died. I list the patients below:-

██████████ (alive)
 ██████████ (died immediately after surgery) - cause of death ??selection error with small pulmonary arteries.
 ██████████ (alive)
 ██████████ (died late in the post-operative period - neurological causes, excellent haemodynamics.)
 ██████████ (died some days following surgery) - cause of death, low cardiac output. Findings at autopsy: very small left atrium and massively hypertrophied ventricle. ?Management error in delaying surgery too long and failure to identify these problems pre-op.
 ██████████ (died some days after surgery) following massive hyperpyrexia (temperature 42°C). Initially good haemodynamics which deteriorated.
John SHERIDAN (died on the operating table of poor ventricular function). Autopsy report awaited. Catheter showed impaired but acceptable left ventricular function; however, this was about 2½ years old.

In tricuspid atresia and a univentricular heart there is no doubt that the cardiac pathology progresses significantly during childhood. The details and direction of this progress will vary according to the details of the anatomy and physiology. Commonly it leads to impaired ventricular function, occasionally to abnormalities exemplified by ██████████. Post-operatively the haemodynamic reserve is limited by two factors, (1) is the pre-operative damage and (2) is the fact that the entire circulation continues to be dependent on one ventricle. These considerations would seem to suggest that the selection criteria of patients for surgery are very critical and should be formally undertaken. Although I have understood this theoretically for a long time, I do think we have to be even more rigorous than before. Further, I don't actually know what sort of proportion of patients are rejected as surgical candidates at other major centres.

In looking at the above sad experience I am bound to say that I believe that the operative techniques are manageable and are being satisfactorily performed. I am not sure that I am entirely satisfied about post-operative management, although in the cases of ██████████ and ██████████ there were other major factors underlying a difficult post-operative course. The question of selection for surgery remains crucial.

When faced with a problem of this type there seem to be two attitudes which can arise in response. First, one can say that if the correct things are being done then one should persevere and things will come right in due course. Secondly, one could say that because of the disappointing results things are obviously not being done right and, therefore, must be altered. I believe

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