Complete heart block developed in seven patients, and it is pertinent to note that, in one of these, left bundle-branch block had been present prior to the procedure. Items such as perforation of the heart occurred 100 times (0.8%); nervous system complications developed in 24 patients, pulmonary complications in 11, systemic arterial embolism in seven, and serious hemorrhage in 10. The incidence of arterial occlusion by thrombosis (37 cases) is remarkably low and the suggestion that there might have been inadequate reporting seems warranted. The report does not mention the possibility that in some infants hemor-

rhage might have been related to the use of large amounts of contrast medium. The complications that occur in infants and in children are considered in a separate section as are the procedures of coronary arteriography and transseptal left heart catheterization. One type of contrast medium (iothalamate sodium [Angio-Conray]) apparently was associated with a higher incidence of complications than any other.

The supplement will be issued also as an American Heart Association monograph and will be available from the central office.

HOWARD B. BURCHELL
PATRICK A. ONGLEY

Résumé of Events
Leading to Cardiac Catheterization for Physiological Purposes

“. . . Dr. Cournand and I . . . began our work in 1931. . . . There was nothing original in our approach. We simply tried, as others had done before, to establish gaseous equilibrium between lungs and inflowing blood by rebreathing procedures, and to do this especially in patients with chronic pulmonary disease. . . . By the late nineteen-thirties, we were able to describe ventilatory functions of the lungs, and with pulmonary measurements supplemented by arterial blood studies, in rest and exercise, define to some extent the mixing and the diffusional aspects of pulmonary alveolar or alveolar-capillary functions. But we still could not measure blood flow through the lungs, and could not therefore move into those broader concepts of cardiopulmonary function which now began to be our goal.

“We were aware of the earlier experiment of Forssmann and had followed closely its isolated uses in Germany, Portugal, South America and France. . . . Late in 1940, Cournand and Ranges took up the catheterization technique, showing in their initial studies that consistent values for blood gases could be obtained from the right atrium, that with this, cardiac output could be reliably and fairly accurately determined by the Fick principle, and furthermore that the catheter could be left in place for considerable periods without harm. Not long after, through the interest of Homer Smith [Professor Emeritus of Physiology, New York University College of Medicine], and the assistance of Bradley, pressure recordings by a Hamilton manometer were added to the other techniques. Blood volumes by Gregersen’s method were also included.

“. . . Therefore, after ten years of work [i.e. 1931-1941], we had assembled a fairly comprehensive group of methods for the analysis of cardiopulmonary function, methods which could be applied not only to normal man but to patients even in the most severe and acute stages of decompensation.”—D. W. Richards: Description of the Prize-Winning Work. In SOURCES, THEODORE L.: Nobel Prize Winners in Medicine and Physiology 1901-1965. London, Abelard-Schuman, 1966, p. 328.
write a short essay on auscultatory buncombe. Percussion of the heart borders fell into disrepute partly because of overzealous proponents. Fortunately the auscultatory art is on a firmer scientific foundation. If each of us appraises, rather than simply praises, our auscultatory accomplishments, there will be little reason for a Menckenian essay. To conclude on a lighter note, the romanticist might enjoy the following lines, as a description of threshold hearing in a background of noise and even possible hyperacusis of women or in illness.

There Jessie Brown stood listening
Till a sudden gladness broke
All over her face and she caught my hands
And drew near me as she spoke

“The Heilanders! O!
Dinna ye hear the slogan far away
The McGregors O! I kin it well.
Its the grandest of them all . . . .”

We heard the roar and rattle afar
But the pipes we could not hear
So the men plied their work of hopeless war
And knew the end was near . . . .

It was not long ere it made its way
A thrilling ceaseless sound

It was no noise of the strife afar or the sappers underground.
It was the pipes of the highlanders
And now they played “Auld Lang Sang” . . . .
These lines are by Robert T. S. Lowell in the “Relief of Lucknow.”

HOWARD B. BURCHELL

References

Reward

I remember, one day, saying how uphill the work was, and he (Thomson) answered, “Yes, that is why there is so much credit in doing anything.”—RAYLEIGH: The Life of J. J. Thomson.
Preamble to Venous Catheterization
(Forssmann)

"In emergency conditions which menace patients by interruption of cardiac activity, such as in acute collapse in cardiac patients or in anesthetic episodes and poisoning, one is forced to undertake a rapid local drug treatment. In such cases, the sole remedy is often an attempt at intracardiac injection which then occasionally can be life-saving. Nevertheless, intracardiac injection always remains a dangerous measure on account of the numerous cases in which death occurs by damage to the coronary vessels and their branches, and therewith by hemorrhage into the pericardial sac and by cardiac tamponade (i.e. the accumulation of fluid, causing pressure, in the sac enclosing the heart). Furthermore, damage to the pleura can also lead to a fatal pneumothorax. . . . These considerations have led me to seek a new way whereby one can penetrate into the heart without danger, and so I have investigated the probing of the right heart, approaching it from the venous system. . . ."—WERNER FORSSMANN: Description of the Prize-Winning Work, In SOURKES, THEODORE L.: Nobel Prize Winners in Medicine and Physiology 1901-1965. London, Abelard-Schuman, 1966, p. 332.

NEW ADDRESS OF EDITORIAL OFFICES OF CIRCULATION

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412 Union Street S.E.
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Circulation, Volume XXXVII, May 1968


Bicentenary of Classic Description of Angina
Correlation with Coronary Disease

It may seem surprising that Heberden did not take any active part in the pathological investigations and the controversy over the cause of angina which was already arising in his lifetime. Jenner and Parry had both adopted the coronary theory by 1778, but delayed its publication for fear of alarming John Hunter in whom Jenner had diagnosed angina in 1777, at Bath, and had written to Heberden about the case though apparently the letter was not received; it was published in Baron’s Life of Jenner. Fothergill had published a case of fatal angina pectoris, in which Hunter found ossified coronary arteries at necropsy in 1776, and Samuel Black of Newry had reported ossified coronaries in anginal cases in 1794.—D. Evan Bedford: William Heberden’s Contribution to Cardiology. J Roy Coll Physicians (Lond) 2:132, 1968.
Louis of Paris

(1787-1872)

... not only animated, but were fairly “possessed,” as it were by the spirit of inquiry into the secrets of nature in medical science. It is the same impulse... which has urged all really great scientific investigators, and which will continue to do so till the end of time. ... great men of our profession were “possessed” by this spirit in an eminent degree. Louis finely describes it in the autograph which he gave to the editor of the “Panthéon” already alluded to. At his last interview with me, Louis, when giving me his portrait and autograph (which I now place in your care), slowly read over the words, as if they were his parting gift to me, his pupil. It runs thus:--

"There is something rarer than the spirit of discernment; it is the need of truth; that state of the soul which does not allow us to stop in any scientific labors at what is only probable, but compels us to continue our researches until we have arrived at evidence."—HENRY L. BOWDITCH: Brief Memories of Louis and Some of His Contemporaries in the Parisian School of Medicine of Forty Years Ago. Boston, Press of John Wilson and Son, 1872, p. 19.

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