its space-derivative, then $P_n^* = (-iR_i/\beta_n) \bar{P}_n^*$ (where β_n is complex). On the other hand, we can simplify the problem considering the pulse wave to be a wave travelling without attenuation. Then the numerical error is independent of the degree of attenuation. The previous approximation was used by WOMERSLEY (1957) and gives satisfactory results when the damping of the pulse wave is very small.

The velocity profiles for the isotropic elastic tube are not plotted, because the differences from those of the anisotropic wall are small. But it is necessary to include the influence of the anisotropic effects in the calculation of wave number and attenuation coefficient of pressure waves, as is represented in Figs. 3 and 4.

References

- ATABEK, H. B. (1968) Wave propagation through a viscous fluid contained in a tethered, initially stressed, orthotropic elastic tube. *Biophys. J.*, **8**, 626–649.
- BAUER, H. F., METTEN, St. and SIEKMANN, J. (1980) Dynamic behavior of distensible fluid lines carrying a pulsating incompressible liquid. *ZAMM*, **60**, 221–234.
- COX, R. H. (1975) Anisotropic properties of the canine carotid artery *in vitro*. *J. Biomech.*, **8**, 293–300.
- FLUEGGE, W. (1962) *Statik und Dynamik der Schalen*. Springer Verlag, Berlin.
- FUNG, Y. C. (1981) *Biomechanics*. Springer-Verlag, New York.
- LIEPSCH, D., SEEMANN, A. and SIEKMANN, J. (1985) Note on wave propagation in a thin elastic tube containing a viscous fluid. *J. Biomech.*, **18**, 685–694.
- LING, S. C., ATABEK, B., LETZING, W. G. and PATEL, D. J. (1973) Nonlinear analysis of aortic flow in living dogs. *Circ. Res.*, **33**, 198–212.
- MCDONALD, D. A. (1976) *Blood flow in arteries*, 2nd edn. E. Arnold, London.
- SCHWERDT, H. and CONSTANTINESCO, A. (1976) Periodic flow of a viscous fluid superposed on steady flow in an orthotropic initially stressed elastic tube. *Biorheology*, **13**, 7–20.
- WEIZSAECKER, H. W., LAMBERT, H. and PASCALE, K. (1983) Analysis of the passive mechanical properties of rat carotid arteries. *J. Biomech.*, **16**, 703–716.
- WHIRLOW, D. K. and ROULEAU, W. T. (1965) Periodic flow of a viscous liquid in a thick-walled elastic tube. *Bull. Math. Biophys.*, **27**, 355–371.
- WOMERSLEY, J. R. (1957) An elastic tube theory of pulse transmission and oscillatory flow in mammalian arteries. WADC Technical Report TR 56–614.

Authors' biographies

Sokrates Tsangaris received the diploma degree in Mechanical & Electrical Engineering from the National Technical University of Athens, Greece in 1972 and a Ph.D. from the Technical University of Vienna, Austria, in 1976, in the area of transonic aerodynamics. He joined the Biofluid Section of the Technical University of Vienna in 1975, where he worked in the field of modelling blood flows in arteries and physiological measurements. Since 1981 he has been assistant professor and lecturer in the Mechanical Engineering Department of the National Technical University of Athens. His working areas are biofluid mechanics, bioengineering and theoretical aerodynamics.

Dimitrios Drikakis received his diploma in Mechanical Engineering from the National Technical University of Athens, Greece, in 1987. He worked for his diploma thesis in the field of nonsteady blood flow in arteries and is now a postgraduate student in the Fluids Section of the National Technical University of Athens working in the area of fluid mechanics.

Erratum

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'Causal relationship between heart rate and arterial blood pressure variability signals' by G. Baselli, S. Cerutti, M. Livraghi, C. Meneghini, M. Pagani and O. Rimoldi

On page 378 the wrong biography was published for S. Cerutti. It should have read:

Sergio Cerutti received the Italian degree in Electronic Engineering from the Polytechnic University, Milano, in 1971. He works in the Biomedical Engineering Group at the Department of Electrical Engineering, Polytechnic University, Milano, where he is Associate Professor in Biomedical Electronics. His research activity is mainly dedicated to the development of biomedical signal processing algorithms both for the cardiovascular system and in the neuroscience field. He is member of AEI-IEEE, AIIMB-IFMBE, CEI-IEC, UNI-ISO and other international associations. He is chairman of SC62D of the CEI and vice-chairman of the AEI special Group of Bioengineering.