

Reply to letter by Bassareo regarding the article of Tauzin *et al.* 'Increased systemic blood pressure and arterial stiffness in young adults born prematurely'

L. Tauzin*

Territorial Hospital Centre, Nouméa, France

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Dear Editor,

I have read with great interest the comments by Bassareo *et al.* (this issue), who have demonstrated that young adults who have been born with a low weight owing to prematurity at birth show an increase in their systemic blood pressure and peripheral arterial dysfunction, and that the underlying alteration responsible for these findings are the high levels of asymmetric dimethylarginine.

Also pioneer in this field, given the increase in arterial stiffness is independent of blood pressure in our previous study, we hypothesize that such changes are related to an impairment of arterial wall structure or properties that may pave the way to the development of hypertension in the long term.¹ The origin might be impairment in elastin synthesis as a result of preterm birth owing to deficiency of elastin already observed in anatomic pieces of human immature aorta,² and the decrease in arterial compliance in preterm babies at birth.³ The gradual loss of elastin and its replacement with collagen that accompanies ageing, tends to amplify the increase in blood pressure and in

arterial stiffness (central arterial elasticity⁴), and may also predispose a person to left-ventricular hypertrophy and cardiovascular disease.

References

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4. Bassareo PP, Saba L, Puddu M, Fanos V, Mercurio GG. Impaired central arterial elasticity in young adults born with intrauterine growth restriction. *Int Angiol*. 2014; PMID: 25027598 [Epub ahead of print].

*Address for correspondence: Laurent Tauzin, M.D., Department of Neonatology, Centre Hospitalier Universitaire de la Réunion, Hôpital Félix Guyon, Bellepierre 97405 Saint-Denis Cedex, France. Tel/Fax: 262.90.58.31. (Email laurenttauzin@hotmail.fr)