

Letter to the Editor

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Proposal for a specific classification code in the International Classification of Diseases for patent ductus arteriosus of the premature infant

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Dear Editor,

The International Classification of Diseases (ICD) is the global health information standard for mortality and morbidity statistics. It is a useful tool for the identification of health trends and for reporting diseases and health conditions. Some of its applications include monitoring of the incidence and prevalence of diseases, study disease patterns, as well as manage healthcare, monitor outcomes, and resource allocation.¹

Currently, the ICD-10 code definition of patent ductus arteriosus does not distinguish between the ductus arteriosus related to prematurity and its persistent patency as a CHD. The patent ductus arteriosus of the premature infant should have a different classification with its own International Classification of Diseases code as it has a different pathophysiology, histology, and morbidity. The purpose of this letter is to highlight the differences of the patent ductus arteriosus of the premature infant and propose a new International Classification of Diseases code classification.

The ICD-10 code for patent ductus arteriosus is Q25.0: “Congenital heart defect wherein the ductus arteriosus fails to close after birth”. The ICD-11 (released on June 18, 2018 and continues to be reviewed) recognises two codes for patent ductus arteriosus. Firstly, LA8B: “Patent arterial duct, a congenital cardiovascular finding in which the arterial duct (ductus arteriosus) is open beyond the normal age of spontaneous closure”.² Secondly, KB43: “Delayed closure of ductus arteriosus, a condition characterised as a congenital disorder in the heart wherein a neonate’s ductus arteriosus abnormally remains open longer than the first day after birth”.²

The patent ductus arteriosus of the pre-term infant is a unique entity, which differs from the permanent/persistent patency of a ductus arteriosus. The morbidity related to the patent ductus arteriosus in the pre-term infant is different to other stages later in life. Since 1980, Gittenberger et al described different histological stages in maturation of the ductus arteriosus and also described a primary anatomic defect in cases of persistent patency of the ductus arteriosus.³ In cases of permanent patency, a subendothelial elastic lamina bordering the lumen of the DA is present; this feature is defined histologically as type IIIa.³ Ducts with a type IIIa histology will probably never close spontaneously, making them different from the normal maturation process of the arterial duct. On the other hand, the patency or delayed closure of a DA due to prematurity is a condition in which the histopathological immaturity of this structure will most likely determine its patency and may also make it susceptible to pharmacological closure.

Approximately each year, some 15 million babies in the world (more than one in 10 births) are born too early.¹ In these infants, DA remains open at 4 days of age in approximately 10% of infants born at 30 through 37 weeks’ gestation, 80% of those born at 25 through 28 weeks’ gestation, and 90% of those born at 24 weeks’ gestation. By day 7 after birth, those rates decline to approximately 2, 65, and 87%, respectively.⁴ The high incidence of patent ductus arteriosus prematurity-related and the frequent need for treatment (haemodynamically significant patent ductus arteriosus) before spontaneous closure highlights the necessity for a distinction in ICD-11. We propose a new specific classification code for the ICD-11, namely, “Patent ductus arteriosus related to prematurity”.

Conflicts of interest. None.

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