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TITLE

GENOMIC STUDIES MAY GUIDE TOWARDS PREVENTION OF PRETERM BIRTH

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ABSTRACT

Of the nearly 15 million annual preterm births, 70% are due to spontaneous onset of labor. The regulation of the duration of human pregnancy is unique. Human allometric scaling study comparing human species to the closest primates suggest a shortening of human gestation for several months during the recent evolution from the common ancestors. Today there are no effective medical approaches to prevent of preterm births. Despite progress in neonatal medicine resulting in increased survival of the preterm infants, the high cost of neonatal intensive care and a rather high incidence of persistent neurosensory and somatic defects among the survivors remain challenge. In addition, most preterm fetuses/infants have a limited access of antenatal and postantal medical care.

The high heritability preterm birth approaching 40% in developed countries point out the possibility that identification candidate genes and functional pathways using genomics may define the pathways predisposing to early birth. Further studies on proteomics, transcriptomics, methylomics and detailed molecular, translational and clinical studies may eventually lead to breakthroughs that allow effective means of prevention.

The current progress in genomic and translational research towards prevention of spontaneous preterm birth will be selectively reviewed.

INSTITUTE

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