

International Conference on Women's Health, Gynecology & Obstetrics

July 08-10, 2014 DoubleTree by Hilton Hotel Chicago-North Shore Conference Center, USA

Perinatal pathology in the 21st century: An Australian perspective

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Perinatal pathology includes fetal autopsies and placental histopathology. The importance of these investigations for patient care and understanding pregnancy and development is well established. Recent developments have expanded the diagnostic and scientific value of these tests. Changes have also been made in response to newer techniques in obstetric medicine and fetal interventions. Recent advances in genetics have resulted in improved accuracy and accessibility to genetic tests and these are more widely used. The resolution of genetic studies is much greater and this continues to rapidly improve. The mutations causing some malformations have been identified, for example ciliopathies, resulting in better understanding of malformations and classification of syndromes and developmental anomalies. Advances in generation of transgenic animal models have helped understanding of development but studies of human fetuses are necessary to translate this information to human development. While some of the signalling pathways show similarities in different animal species and human patients, in many cases, there are variations between human subjects and animal models. Observational findings in human fetuses may also guide experimental studies. Anatomical pathology techniques such as immunoperoxidase stains and genetic tests are often helpful in this respect. Placental pathology has also benefited from research especially more recent large and long term studies. However, the significance of some placental findings still requires further studies. There is more standardisation of placental reporting among practising pathologists and newer techniques have been developed, for example injection studies for examination of twin - twin transfusion syndrome.

Biography

Christine Loo is an Anatomical Pathologist with a special interest in perinatal pathology and gynaecological pathology. She is Senior Staff Specialist in the Department of Anatomical Pathology, SEALS, which is the pathology provider for several hospitals including the Royal Hospital for Women, Australia. She also collaborates as a visiting Scientist with the Hepatic Fibrosis Group in the QIMR Berghofer Medical Research Institute in Queensland, Australia. Her publications include investigations and findings from fetal autopsies and their implications for developmental biology and congenital malformations especially in human liver development.

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