**Congenital Anomalies of Soft Tissues:**
*Birth Defects Depending on Tissue Engineering Solutions and Present Advances in Regenerative Medicine*

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**Introduction**
Congenital anomalies encompass a range of malformations that could affect various organs and tissues in the newborn and infant population. These disorders that involve defects in or injury to a developing fetus may be a result of genetic abnormalities or mutations, alterations in the intrauterine environment, irregularities in morphogenesis or chromosomal aberration. The outcome of these defects could lead to minor anomalies or major malformations which are dependent on the complex processes between the pre-natal deficit and post-natal environment. Often multiple malformations occur within the same fetus and give rise to a malformation syndrome. Since congenital anomalies are evident at birth, solutions must be found to improve the clinical state and quality of life that a newborn has to lead from infancy through adolescence into adulthood.

**Materials and Methods**
Extensive literature review was performed to identify all soft tissue congenital anomalies as well as syndromes. Congenital anomalies were divided into 2 groups- those that could be managed effectively using the present medical and surgical practices and those that required tissue engineering or regenerative medicine solutions and were not treatable by the present state of medical options available.

**Results**
Soft tissue congenital anomalies were divided into the following groups: neurologic anomalies, cardiac anomalies, tracheobronchial anomalies, diaphragmatic anomalies, esophageal and gut anomalies, hepato-biliary anomalies, pancreatic anomalies, renal anomalies and the anomalies of the urinary bladder. The minor and the major anomalies were referred to the literature regarding the availability or non-availability of therapeutic options.

**Discussion and Conclusions**
The manifestation of a particular congenital malformation affecting an infant varies to a large extent and depends on the severity of the defect, type of organ affected and to the existence of concomitant medical conditions. Since research in the field of tissue engineering and regenerative medicine has a trend towards focus towards specific organs, this monogram has focused on organs and their multiplicity of involvement in congenital malformation. Major syndromes affecting multiple organs have been included so as to present the co-morbidities in congenital malformation syndromes and to increase the awareness in the tissue engineering organ groups about the coexisting medical conditions that may offer an altered environment for the biomaterial or engineered tissue.

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