Abstract
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iPS cells: ethical problems solved?

Stem cell research does not only open exciting chances but at the same time confronts us with a wealth of ethical questions and challenges. In this talk I will focus on stem cell potentiality, an aspect that, strangely enough, has been largely neglected in ethical considerations and legal regulations. This aspect becomes a central point of concern, however, after the recent advent of cell reprogramming technologies, specifically of induced pluripotent stem cell (iPS cell) technology. When you reprogram somatic cells to gain pluripotency they become embryonic stem cell (ES-cell)-like. You thus shift them into a category of rare cells with very peculiar properties, shared only by early embryonic cells (blastomeres) and ES cells, including the property of these cells to allow direct cloning of individuals with the method of tetraploid complementation (TC), as shown by experiments in the mouse. When applied to human cells this is of relevance for obtaining informed consent from cell donors (although so far it is not being included in the information provided routinely) and will create problems with patenting. Experts are just beginning to understand that with the act of inducing pluripotency they inadvertently create new ethical and legal problems. Recent experimental data suggest, however, that it is possible to develop alternative strategies for stem cell derivation which allow avoiding these problems.

References: H.-W. Denker: Nature 461: 341 (2009); Reprod. BioMed. Online 19 Suppl. 1: 34-37 (2009); Nature 472: 418, Online Comment #22079 (2011)
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