13th International Conference and Exhibition on Nanomedicine and Pharmaceutical Nanotechnology

July 24-25, 2017 | Rome, Italy

Why ethical safeguards matter in medical nanotechnology? Prospects and problems in the delivery of nanomedicine via microsurgical interventions

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Nanomedicine and medical nanotechnology are considered to constitute new frontiers of medicine on a number of counts. As with any such new developments in medical science and technologies, significant moral and prudential concerns, which together come under ethical concerns overall, inevitably arise as regards the regulation of the implementation and use of these developments. These concerns have been articulated with a good deal of clarity by Resnik & Tinkle (2007), who state that, among other things, "researchers, consumer advocates, and politicians have urged government agencies and private companies to proactively address the ethical, social and regulatory aspects of nanotechnology". This need for ethical safeguards and regulations in nanomedicine gets compounded with the need for safeguards in microsurgical interventions given the prospect of combining the latter with, e.g., polymeric micelle-borne drug delivery. The mode of addressing the need for combined ethical safeguards and regulations adopted here is that of initiating reflective equilibrium with consideration of the respective prospects and problems of nanomedicine (including nanotechnological implementation) and microsurgery as known to date, with examination of certain key transnational guidelines in medical ethics, but focusing on this particular combination of the two with their considerable magnitudinal differences. While the prospects of combining protocols in nanomedicine and medical nanotechnology with those in microsurgery look highly promising, the potential problems and pitfalls are far better anticipated in advance for the formulation of reasonable ethical safeguards that benefit all.

Biography

Tista Bagchi received her PhD from the University of Chicago in 1993 and an advanced diploma in Computer Science certified by the University of Oxford in 1999. She is currently a Professor in Linguistics at the University of Delhi and a Former Member of the Indian Council of Philosophical Research, besides being a current international member of the American Philosophical Association. She has also been a member of an inter-university Complexity Theory group and CSIR Mobility Scientist at the National Institute of Science, Technology, and Development Studies, Delhi, and has published several articles in Bioethics (alongside Linguistics and Philosophy).

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