

# Prepared mind and the innovative process. A personal account of drug discovery

Batra S

Department of Obstetrics and Gynecology, University Hospital, Lund, Sweden

It is now recognised that there is considerable, even unlimited potential for innovative research in all academic research establishments – be it a university, a hospital or a research institute.

Most of the major discoveries leading to the benefit of public at large have come from university research. Some notable examples are: Lasers, Semiconductors, Superconductors, Computers, Biotechnology and a variety of therapeutic agents, one of the recent one being Viagra for which the ground was laid by the academic scientists in the eighties.

The author illustrated by describing his personal account of how an unexpected finding when logically followed can lead to the discovery of novel compounds with potential for use in oncology.

The novel compounds which have been patented are steroid carbonates and were shown to markedly potentiate the cytotoxic effect of cancer therapeutics in multidrug resistant (MDR) tumor cells (US patent no 604182)

In contrast to USA, the intellectual property (IP) management at the European universities, unfortunately, has received little attention and in some cases it is still non-existent, which has resulted in the loss of opportunities to commercialise the discoveries and the innovative findings. The reasons for this in the authors view are, partly tradition, partly individual attitudes, lack of information and the lack of risk/venture capital.

It is in the interest to each country to capitalise on the knowledge, which is created within the university and hospital communities.

For this to happen researchers and administrators (or managers) must be aware of not only importance of protection of the IP but of the responsibility of creating a research environment in which the individual researcher is prepared to utilise the full innovative potential of his (her) research.

Discoveries are made by individuals whose minds are prepared to see and interpret events and observations that have made no or little impressions on others. This is nicely put up by Louis Pasteur some 150 years ago when he said “Chance favours only the prepared mind”.

There are numerous examples of discoveries made through serendipity. The simple definition of serendipity is the gift of finding valuable or agreeable things not sought for or, the faculty of making fortunate and unexpected discoveries by accident (dictionary definitions).

Only very few individuals have the gift of genius (born genius). However, it is possible to train oneself to a considerable extent. Two important measures to be taken are:

Spark of genius: Unless the mind is thoroughly charged, it does not ignite.

Can train:

- Making & recording observations – both expected & unexpected. Observation of things one is not looking for flexible thinking and interpretation.
- Should not strive to fit new info/knowledge into the dogma of the day. Which means, thinking not circulatory, but tangentially, differently

A brief description of how to protect IP was given along with the process of patent application and prosecution. The role of the university / academic establishment in innovation management was further highlighted.

## What is a patent?

A patent is a mean of protection of intellectual property.

## What is patentable?

In order to be patentable an invention (finding) must be novel, and it must have utility. Over the years a third criteria has been added emerged: That the invention is not obvious to a person skilled in the field of the inventions.

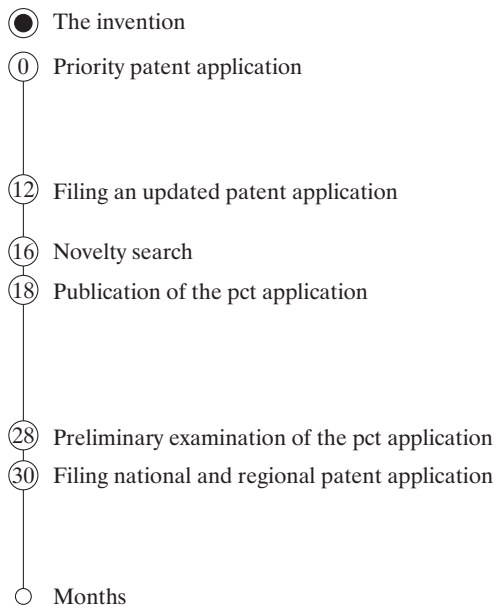
Prepared mind in most cases is a prerequisite to grab a passing innovation. One can train to be prepared and university management greatly can help by providing the right envi-

ADDRESS FOR CORRESPONDENCE:

Satish Batra

Department of Obstetrics and Gynecology,  
University Hospital, SE-221 85 Lund, Sweden

Figure 1. Patent application drafting and prosecution



ronment, support, inspiration and research strategy etc. But, although crucial, this in itself is not enough. The university or the academic establishment has a greater role to play in seeing that the innovative research is propelled, harnessed and capitalised by efficient innovation management and IP protection.

At our university in Lund (Sweden), which also was relatively late in starting up Innovation Management (IM), the strategic goals were formulated in 2002, which are IM University of Lund, Faculty of medicine

General objective:

- To increase awareness of innovative potential of ongoing research in the faculty.

Specific objectives:

- To inspire researchers to think in terms of innovative potential of their research project.
- To assist research workers in the evaluation of ideas/method where potential for innovation is considered a possibility.
- To assist researchers in commercialising an innovative finding.