

**Centrum Onkologii – Instytut im. Marii Skłodowskiej-Curie
Oddział w Gliwicach**

Biuletyn Informacyjny

Nr 60; Kwiecień 2012

Biuletyn redaguje:

Piotr Widlak (widlak@io.gliwice.pl; 9672)

Sekretariat Naukowy

Aleksander Sochanik (asochanik@io.gliwice.pl; 9677)

Strona internetowa Centrum Badań Translacyjnych:

<http://www.cd.io.gliwice.pl>

1. Zebrania naukowe

Seminaria Działu Badawczego (czwartki, godzina 9.15, Sala Wykładowa im. Święckiego)

12.04.2012	Karolina Tęcza (CBT): Farmakogenetyka w przebiegu raka jajnika
19.04.2012	Stanisław Półtorak (KChOR): Kompleksowe leczenie chirurgiczne nowotworów piersi
26.04.2012	Jolanta Pamuła-Piłat (CBT): Zastosowanie techniki HRM do badania mutacji w genach BRCA1 i BRCA2

Kliniczne Zebrania Naukowe (środy, godzina 8.15, Sala Konsyliarna Przychodni):

04.04.2012	Grzegorz Głowacki (Zakład Radioterapii): Błędy pozycjonowania i ruchomości międzyfrakcyjnej w radioterapii gruczołu Sławomir Blamek (Zakład Radioterapii): Hypofracjonowana radioterapia stereotaktyczna malformacji tętniczo-żylnych
11.04.2012	Zakład Radiodiagnostyki
18.04.2012	I Klinika Radioterapii i Chemioterapii
25.04.2012	Zakład Patologii Nowotworów Karolina Tęcza (CBT): Farmakogenetyka raka jajnika

Redakcja Biuletynu prosi o nadsyłanie informacji dotyczących seminariów i zebrań naukowych odbywających się we wszystkich jednostkach naszego Instytutu.

Przypominam, że udział w wykładach, seminariach i zebrań naukowych należy do podstawowych obowiązków pracowników naukowych [pw].

2. Warto przeczytać...

Science that "knows" and science that "asks"

Pierre R Smeesters, Marie Deghorain, Andrew C Steer

The electronic version of this article is the complete one and can be found online at: <http://www.translational-medicine.com/content/9/1/128>

Abstract

Clinician-researchers and experimental scientists do not speak the same language; they have different professional environments and different end-points in their research. This creates considerable problems of comprehension and communication, which constitute a major drawback in multidisciplinary work such as translational medicine. A stereotypic representation of both these worlds is presented as a starting point to encourage debate on this issue.

Introduction

'To doubt everything or to believe everything are two equally convenient solutions: both dispense with the necessity of reflection.' Henri Poincaré

Recent progress in biomedical sciences and technology, such as advances in (meta)genomics, molecular biology and bioinformatics, have radically transformed biomedical research such that multidisciplinary collaborations are often needed [1]. At the same time, multidisciplinary and translational research has become a global research priority and is preferentially considered by many funding agencies [1]. Translation of basic scientific progress into clinical output is certainly an excellent objective. For this translation to be realised as well-funded scientific projects [2-5], there is a well identified need to improve the communication and the relationship between basic experimental scientists (mostly PhDs) and clinicians (MDs) [6]. However, the education and daily life of these two actors have not really changed over time and continue to be driven by different pressures. In the next two paragraphs, a stereotypic representation of both the clinician-researchers and experimental scientists will be presented as exaggerated examples in order to stimulate discussion.

Physicians face a long, drawn out and difficult training program which prepares them to eventually become experienced and wise clinicians. They learn to apply the latest interpretations of scientific data to the benefit of their patients. If the rigor of training has not exhausted them, then clinical evaluation and patient well-being become their focus as they face the human condition with all its magnificence and weakness. Because of the nature of their work, clinicians have an incredible opportunity to share ideas with people from a broad range of socio-economic backgrounds with divergent points of view. These exchanges frequently occur in the setting of acute medical conditions that favour real and honest communication. Clinicians therefore often develop a solid understanding of where societal expectations and moral attitudes towards medical care lie. With time, they become more and more convinced that quick and often lifesaving answers are probably more important than questions. Clinicians are often overwhelmed with patient care, student teaching and administrative tasks. There is precious little time for medical research, nor is there encouragement from employers to do research in the modern health care environment where cost minimisation often drives administrative decision making. After having eaten dry bread during initial years of practice, the clinicians become financially comfortable. As drug prescribers, clinicians are very attractive targets for pharmaceutical marketing. Pharmaceutical companies invest in clinical studies led by successful physicians. The compensation for these leaders sometimes includes generous consultation fees, business class travel or accommodation in five star hotels.

The experimental researchers have to pass through an uncertain and stressful training period. Their supervisors' and their own expectations are very high. They are trained to be critical thinkers, to work on the unknown, sometimes in a solitary environment, to learn from errors, to deal with unexpected experimental problems, and to remain up to date with the literature on their favoured subject. Experimental researchers develop an accurate and cutting edge skill to conduct difficult research projects in the long term. However, they often restrict themselves in a very narrow environment to a specific research topic. Imagination is a must; good questions that can be answered may be pursued for many nights. While dreaming of answers they spend much more time on hypotheses as each answer is a novel question. They also spend a lot of time writing and rewriting research proposals. If their enthusiasm survives, they are faced with cut-throat competition for honours and funding. They might still live on short-term grants even after the second post-doctoral tenure. Pharmaceutical companies do not court them. They wonder where the stars of the hotels are while chewing a two-dollar dry cheesecake from the canteen at the congress venue.

Discussion

Of course, reality is much more intricate and subtle. The notion of the conflict of interest, for example, has received significant attention for some time [7]. Significant and progressive changes have since been made in public and publishing policies to minimise this as a potential issue. However, real differences still exist between the experimental scientist and the clinician which affect communication between the two groups. As noted by Philip Watanabe: 'attempting to organize symposia where experimental researchers and clinicians truly interact for value to advances in

medicine is difficult, if not impossible.' [8]. Clinicians and experimental scientists do not speak the same language; they have different professional environments and different end-points in their research [9]. Basic experimental science might be seen as asking much more than it answers while clinical research often focuses on pragmatic answers. Basic scientists sometimes regard clinical research as not quite respectable, at least at a scientific level. They naturally do not feel comfortable with clinical situations and clinicians may not help them in being so. If MD-trained or young PhDs scientists try to cross the bridge between the disciplines, they often face incomprehension. Those scientists 'can be seen as second class researchers if they are not elucidating the latest of mechanisms for the basic sciences' [8]. Declan Butler characterised this chasm between basic science and clinical practice in a special issue of Nature by using the title: 'Crossing the valley of death' [1].

The position of physician-scientist has emerged as a potential solution to these problems. Numerous medical schools started MD-PhD programs in the mid 20th Century and this has been supported by the NIH [10]. Physician-scientists may be the catalysts of translational research [11] because they represent a crucial link in the chain of scientific discovery [12]. To maintain this role, they need to share their time, energy and financial resources between the practice of medicine and the conduct of research. Several Nobel prize winners including Michael Brown (1985) and Sir James Black (1988) testify to the potential successes of this kind of research career [11]. However, does the exponential increase in our understanding of human pathophysiology, in the complexity of modern clinical care and in the technical capability of experimental techniques still allow individuals to be proficient in clinical medicine and basic science simultaneously? Andrew Schafer underlines that 'the vast and dramatically changing bodies of knowledge in these arenas of medicine have made it humanly impossible for any one individual to attain even a semblance of mastery of much of it' [6]. Declan Butler even believes that 'science and innovation have become too complex for any nostalgic return to the physician-scientist on their own as the motor of health research' [1]. Does the physician-scientist need to make a choice between medical practice and research at some point of his/her career [9]? The question is open and the answer may vary at different stages of his/her career development. It has been asked during the three last decades whether physician-scientists might be an 'endangered' [13-15] or a 'vanishing' [6] species. The number of candidates for such a career is apparently decreasing and success in grant applications by physician-scientists has dropped substantially in the last decade [6]. Well-trained physician-scientists are however still in high demand in the private and academic sector [16,17]. While training more physician-scientists may be one part of the solution to this global problem, it will not on its own bridge the gap between practising clinicians and experimental scientists.

If the physician-scientist is a vehicle for exposing a physician to the rigor of basic science, why does the corollary not frequently exist? Why is a hospital so closed to non 'clinical care' professionals? It is rare for basic scientists to become involved in professional activities outside the restricted and homogeneous universe of their laboratory. At the very least, cross-departmental research projects should be more clearly encouraged and supported. Increased exposure of basic scientists to the clinical coalface could help broaden their view of research opportunities and may produce sparks to fire novel scientific creativity. Aaron Salzberg writes: 'The scientist must not only develop and maintain technological expertise, but must also assure the public that science is being developed and presented in a manner consistent with societal goals' [18]. To achieve this, basic scientists should have both the desire and more opportunity to be immersed into the medical reality.

Conclusion

The specific expertise and know-how of each actor of biomedicine is of course necessary and essential. However, on well-defined translational projects, a real association of basic-science scientists with research clinicians could be extremely valuable. If this association was to take place on equal footing, it could potentially increase the delivery of societally responsible output. For every such successful association the recipe must include the ingredients of humility, good communication, and an ability to learn, understand and appreciate the other partner's point of view and training background. By mixing the science that "asks" with the science that "knows", we could even produce science that "serves".

- 1) Butler D: Translational research: crossing the valley of death. *Nature* 2008, 453:840-842.
- 2) Nussenblatt RB: Translational medicine--doing it backwards. *J Transl Med* 2010, 8:12.
- 3) Westfall JM: Practice-based research--"Blue Highways" on the NIH roadmap. *JAMA* 2007, 297:403-406.
- 4) Drolet BC: Translational research: understanding the continuum from bench to bedside. *Transl Res* 2011, 157:1-5.
- 5) Dougherty D, Conway PH: The "3T's" road map to transform US health care: the "how" of high-quality care. *JAMA* 2008, 299:2319-2321.
- 6) Schafer AI: The vanishing physician-scientist? *Transl Res* 2010, 155:1-2.
- 7) Thompson DF: Understanding financial conflicts of interest. *N Engl J Med* 1993, 329:573-576.
- 8) Watanabe PG: An observation: role of the M.D., Ph.D. in science. *Toxicol Sci* 1999, 49:165.
- 9) Nabel GJ: The MD PhD physician scientist--endangered species or the next generation? *Mol Med* 1995, 1:369-370.
- 10) Muslin AJ: The physician scientist training program in internal medicine at WUSM. *Acad Med* 2009, 84:468-471.
- 11) Archer SL: The making of a physician-scientist--the process has a pattern. *Eur Heart J* 2007, 28:510-514.
- 12) Faxon DP: The chain of scientific discovery: the critical role of the physician-scientist. *Circulation* 2002, 105:1857-1860.
- 13) Wyngaarden JB: The clinical investigator as an endangered species. *Bull N Y Acad Med* 1981, 57:415-426.
- 14) Byrne E: The physician scientist: an endangered breed? *Intern Med J* 2004, 34:75.
- 15) Rosenberg LE: The physician-scientist: an essential--and fragile--link in the medical research chain. *J Clin Invest* 1999, 103:1621-1626.
- 16) Melnick A: Transitioning from fellowship to a physician-scientist career track. *Hematology Am Soc Hematol Educ Program* 2008, 16-22.
- 17) Nabel EG: The physician-scientist: a value proposition. *J Clin Invest* 2008, 118:1233-1235.
- 18) Salzberg AA: Commentary on "The social responsibilities of biological scientists" (S.J. Reiser and R.E. Bulger). *Sci Eng Ethics* 1997, 3:149-152.

3. Inne informacje

W dniu 26 marca 2012 odbyła się publiczna obrona rozprawy doktorskiej:
Barbara Nikiel: *Ekspresja białek adhezji komórkowej w raku brodawkowym tarczycy*

promotor: prof. Barbara Jarząb;
recenzenci: prof. Ewa Bar-Andziak,
prof. Andrzej Kulig

Na zdjęciu obok dr B. Nikiel i prof. B. Jarząb



- W dniu 19 maja 2012 Centrum Edukacji Medycznej CEMED w Warszawie organizuje konferencję „*Terapie celowane w onkologii*”. Więcej informacji i rejestracja na stronie: <http://www.cemed.pl>

- W dniach 28-30 maja 2012 Instytut Biologii Doświadczalnej im. Nenckiego w Warszawie organizuje konferencję "*Brain Tumors 2012*". Więcej informacji i rejestracja (streszczenia do 20 kwietnia 2012) na stronie: <http://www.braintumors2012.pl/>

- W dniach 15-16 czerwca 2012 Molecular Cancer Research Center of Charite Medical University w Berlinie organizuje konferencję „*Emerging Concepts in Cancer*”. Więcej informacji i rejestracja na stronie: <http://mkfz.charite.de>

- W dniach 15-16 czerwca 2012 Polska Grupa ds. Nowotworów Neuroendokrynych oraz Zakład Medycyny Nuklearnej i Endokrynologii Onkologicznej organizuje „*Letnią szkołę nowotworów neuroendokrynych*”. Więcej informacji i rejestracja (do dnia 29 maja 2012) poprzez adres: zmnio@io.gliwice.pl

- W dniach 10-13 października 2012 Dolnośląskie Centrum Onkologii we Wrocławiu, pod patronatem Polskiego Towarzystwa Onkologicznego i szeregu innych towarzystw naukowych organizuje „*III Kongres Onkologii Polskiej*”. Więcej informacji i rejestracja (streszczenia do 30 kwietnia 2012) na stronie: <http://www.kongres.pto.med.pl>

- W dniach 14-16 października 2012 DKFZ w Heidelbergu organizuje konferencję "*Stem Cells and Cancer*". Więcej informacji i rejestracja na stronie: <http://www.dkfz.de/SCC2012>

Narodowe Centrum Nauki ogłosiło kolejny konkurs grantowy w następujących programach:

OPUS – na finansowanie projektów badawczych, w tym finansowanie zakupu lub wytworzenia aparatury naukowo-badawczej niezbędnej do realizacji tych projektów;

PRELUDIUM – na finansowanie projektów badawczych, realizowanych przez osoby rozpoczynające karierę naukową nieposiadające stopnia naukowego doktora;

SONATA – na finansowanie projektów badawczych, mających na celu stworzenie unikatowego warsztatu naukowego, realizowanych przez osoby rozpoczynające karierę naukową posiadające stopień naukowy doktora;

SONATA BIS – na finansowanie projektów badawczych, mających na celu powołanie nowego zespołu naukowego, realizowanych przez osoby posiadające stopień naukowy lub tytuł naukowy, które uzyskały stopień naukowy doktora nie wcześniej niż 10 lat przed rokiem wystąpienia z wnioskiem.

Termin składania wniosków: 15 czerwca 2012

Do dnia 30 kwietnia 2012 w Sekretariacie Naukowym można zgłaszać kandydatury do **Nagrody PTO im. Hilarego Koprowskiego** za rok 2012 (czyli za prace opublikowane w roku 2011).

W dniu 1 marca 2012 prof. dr hab. Bogusław Maciejewski powołał nowy skład **Kolegium Naukowego Instytutu**. W skład Kolegium Naukowego nowej kadencji weszli:

prof. dr hab. Rafał Tarnawski – przewodniczący
prof. dr hab. Stanisław Szala
prof. dr hab. Rafał Suwiński
dr hab. Sebastian Giebel
dr hab. Andrzej Tukiendorf
dr Sławomir Blamek
dr Dorota Butkiewicz
dr Tomasz Cichoń
dr Michał Jarzab
dr Łukasz Matulewicz

Prof. dr hab. Krzysztof Warzocha podjął decyzję o rezygnacji z dotychczasowej formuły Nagród Dyrektora Centrum Onkologii za najlepsze prace naukowe.

W dniach 28-29 marca 2012 odbyło się ostateczne posiedzenie w obecnej kadencji (2008-2012) Rady Naukowej Centrum Onkologii. W najbliższym czasie przewidziane są wybory członków Rady Naukowej kolejnej kadencji. Uzgodniono, że Gliwicki Oddział Instytutu reprezentować będzie 4 członków ze stopniem naukowym doktora habilitowanego lub tytułem profesora (tj. przyjęto 4 miejsca mandatowe dla kandydatów zgłaszanych z Gliwic).

Redaktor Biuletynu składa Państwu serdeczne życzenia z okazji zbliżających się Świąt Wielkanocnych

