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Editorial

The surgical research encompass a wide area that covers all aspects related to surgery; from bench side to bedside. No matter who's doing the study, as the study concerned to surgical field, then it is a surgical research. Hence, this wide ranged area has led to diversity in formulation the definition of surgical research. [1]

From philosophic point of view, surgery is addressed to treat the pathology which can't be managed medically;[2] in other word is to correct anatomical abnormality; not an abnormal physiologic condition that should be treated by application of pharmacologic modalities.[3] There are many instances, such as hernia repair,[4] acute appendicitis,[5] cleft lip repair,[6] etc. Surgical correction should be instituted to restore a normal (or, near to normal) anatomical configuration that in turn will restore the function.

During the development in a later date, surgery had been divided into its subspecialty that oriented to categorized abnormality, namely trauma, infection, congenital anomaly, tumor, and degenerative with its own characteristic. In the era of well–developed science and technology, surgery continuous to grow and developed. The focus is not just to the anatomical issue, but to the body response to surgery and trauma (inflammation, hypoxia, cells injury) escorting the changes of principles and strategy in the management. Thus, despite surgical techniques, prevention, diagnostic and prognostic; and molecular aspect such as gene therapy were included to the surgical area of interest.

In accordance to evidence based medicine, a surgical technique proposed should be met the required criteria of reliability and validity. Objectivity referred to the essential of science needed to find its validity. This is important, since there were many of known surgical methods which is believed for many years and has been applied in daily practice, evidently places the lowest level of evidence (LOE) i.e. expert opinion (level V) in the era of evidence based, as it provide no either reliability and nor validity.

How a procedure is set as a standard, it's determined by a system of recommendation based on the LOE that comes from certain researches. It should not be forgotten when the evidence is to be applied in clinical practice: each recommendation comes from the center in a well–developed country requires critical appraisal and further validation; it shouldn't necessarily be applied in Indonesian population that have its own characteristics which is showing differences in many ways to those in well–developed one.
If we follow the evidence based way, then the question is: how to run a research with level of evidence I–II in surgery? Is it possible to design RCT for surgical cases? And the next question, in contrast to the former one: is non RCT study not a good one?[7]

Years after evidence based medicine, surgical RCT studies remain minimal.[8] In 2002 there's less than 10% of surgical RCT studies have been reported, and the number remains until 2009.[9,10] To date, 90% of surgical publication are case reports or serial cases, and some modification in techniques proposed by the formers to improves outcome. Some who tried to run RCTs concludes that RCT in surgical research is more difficult compared to medical; if placebo is to be used.[11]

Why research and why RCT?

Research becomes essential as the academic surgeon is the aimed of education and training in surgery. A great surgeon is a person who reached the peak of his/her carrier in surgery, commenced with the curiosity to challenges, and then manifested in actions which further recognized by the peer groups. The recognition of individual achievement comes through publications. Every single step is explained objectively and referred to a kind of scientific evidence as others can repeat his pace (reliable) and prove the validity of a proposed surgery that addressed to a specific case. A proposed technique may not be an innovation without evaluation. A process of verification and argumentation during the evaluation is the scientific steps within an investigation itself. Thus, research is the essentials and referred to a characteristic of academic surgeon.[12]

The aim of a study is clearly to achieve improvement in surgical care; that in turn will provide a merit for human being. A best surgical practice will be achieved with a better knowledge, education and training, and technology as well. The parameter should be measured objectively, valid, beneficial, and certainly cost effective. However, an apple to apple research should never be run. A prospective study enrolling many subjects (RCT) is the best with LOE I, next, is a study like previous one enrolling a small number of subjects (low power) places LOE II, systematic review, retrospective analytical study and contemporaneous controls places LOE III, retrospective analytical study and historical controls places LOE IV, and case report, case series, expert opinions places LOE V. However, in the recent years, evidence based case report (EBCR) found to be upgraded and have been accepted to place LOE IV.[13] Basically is how to provide high quality researches supported by scientific evidence specific to surgery.

Encountering these global issues, experts in surgical field from Oxford University, UK 2007–2009 proposed a concept of IDEAL as a method of systematic approach to surgical research through collaboration. Such a concept proposed addressing the demand to

provide high quality of surgical researches.[14] In facts, amongst surgeon worldwide, there's just 3.4% of population thinks innovative and creatively, and supported by scientific background (namely, thinker). Less than 10% of population rolled as early responder/first adopter who accept the changes and moved on, addressing by conducting either investigation or replication and starts the implementation earlier in clinical practice. Other thirty percent preferred to wait for establishment until there is no longer controversies (late responder/adopter).

IDEAL which is the abbreviation of Ideal collaboration (http://www.ideal–collaboration.net/) is an open network driven by international steering group consisting of surgeons, surgical researchers, and innovative group of complex intervention group statistician, journal editors and the experts in translating research to clinic. The mission is to develop evidence based atmosphere in surgery that in turn will satisfy surgical patients and prevent unnecessary complications. The concept of IDEA drives surgical researches to a structured and systematic surgical RCT in surgical characteristics which is different to medical researches.[15] Such a concept have been implemented in UK by the leading surgical centers in the Kingdom, namely Royal College of Surgeon (RCS) of England, Glasgow, Ireland and Edinburgh;[16] including nations in commonwealth. It is also implemented in the developing third world centers. Surprisingly, in the last three years, such a concept have been implemented in the region the American College of Surgeon.[17,18]

Surgical Research in Indonesia

Indonesia that geographically consisting more than 17.504 islands (Data of Ministry of Internal Affair RI, 2004) with 250 million of population consisting 247 tribes where economically is dominated (70%) with middle–income and 11% those with absolute poor)[19] and a unique social living[20] were encountered problems that is different to those in well developed countries. Delayed treatment, advanced– and full blown cases referred to factor (pre hospital delays) found in daily practice; so, does the hospital delays. Consequently, these characteristics indicated different incidence, background, diagnostic and prognostic issues as well as the outcome to those in established centers. Then, the implementation of recommendation proposed in the established centers overseas can't be necessarily applied.

Unfortunately, surgical research in Indonesia is quite minimal. Published scientific articles dominated by case report with small size samples; even though in the last two years we will find published evaluation–observational reports.[21] However, surgical field in Indonesia remain minimally exposed to scientific research. Ideally, surgical research should be focused to problems encountered in daily practice. There were many specific encountered problems unexplored; on the contrary referred not to be a scientific publication which delivers benefit to surgeons, and the most important one is to surgical patients in Indonesia. Surgical research is not difficult. As recommended by IDEAL, is not necessary an RCT, but evidence based surgery.

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