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Dear Colleagues,

In recent months, much attention has been devoted to a material presented firstly at San Antonio Breast Symposium (November 2011), published as an article on May 2, 2012 in the JAMA, entitled "Association between treatment with brachytherapy vs. whole-breast irradiation and subsequent mastectomy, complications, and survival among older women with invasive breast cancer". Authors from the MD Anderson Cancer Center reported a small but statistically significant increase in the rate of mastectomies in elderly patients treated with APBI-brachytherapy as compared to conventional WBI. The rate of mastectomy was nonetheless very low in both groups (2.2% for WBI vs. 4% for APBI-brachytherapy). Authors concluded that "In a cohort of older women with breast cancer, treatment with brachytherapy compared with WBI was associated with worse long-term breast preservation and increased complications but no difference in survival". In American Brachytherapy Society response we can read that "there are several weaknesses in this article which need to be acknowledged. The report is based upon a review of Medicare claims data and, as such, is subject to limits in interpretation due to the retrospective nature and inherent selection bias. From prior analyses, we know that Medicare claims data are severely limited when it comes to extracting critically important prognostic factors such as the general medical condition of the patient and the extent of the tumor. Furthermore, critical details regarding other treatments that patients may have received such as the completeness of the initial breast tumor lumpectomy, the systemic therapy received, and the reason for subsequent mastectomy are often lacking. In short, the analysis presented in JAMA tells us very little. This is in stark contrast to the results of many carefully performed studies of APBI-brachytherapy accumulated over twenty years. Peer-reviewed randomized clinical trials are the gold standard of scientific evidence to establish the safety and efficacy of medical interventions. It is important to emphasize that two such studies are available that have demonstrated equivalence of APBI-brachytherapy in comparison to WBI for local control, complications, and cosmetic outcome". Similar observations are published by Cuttino *et al.* (*Int J Radiation Oncol Biol Phys* 2012; 83: 1075-1077) who noted, as limitations of JAMA publications, "the use of surrogate metrics, treatment era bias, the retrospective nature of the analysis, selection bias, and incomplete treatment data". Also "in the SEER-Medicare database, no information regarding proper dose delivery is available; (…) A critical piece of missing information in the MDACC abstract is patient selection criteria". And one more important conclusion: "Because all the patients in the SEER-Medicare abstract were treated before the generation of ASTRO, ABS guidelines, it is not possible to judge whether the reported increased rate of mastectomy is a result of inappropriate patient selection for APBI during the period investigated or rather the result of APBI in general, as suggested by the authors". Conclusions from Cuttino team are significant: "this abstract (paper) provides little meaningful information, in contrast to the results of many carefully performed prospective clinical trials of APBI accumulated over 20 years. In particular, we believe this abstract should be interpreted in the proper context of the entire APBI experience, to avoid undermining trial accrual and to avoid an unnecessary and improper reaction from the lay press and from the radiation oncology community". Also the American Society of Breast Disease (ASBD, at www.ASBD.org) is concerned about misleading information in a recent study published in the *Journal of the American Medical Association* (JAMA), comparing breast brachytherapy to whole breast irradiation (WBI). ASBD cautions that the study has several deficiencies that may unnecessarily deter women from choosing brachytherapy as a treatment option. The Society believes that brachytherapy remains a valuable method of treatment for appropriately selected patients, and that it should continue to be offered to appropriate women as a treatment choice. Potential benefits include less dose to healthy tissue, convenience (five days instead of six weeks for WBI), safety and effectiveness.

What's the point and what's the problem? Rapid and widespread dissemination of information about the adverse results of APBI in the mass media and medical journals. Examples: 1. In: HemOnc Today, January 25, 2012 – (Hattangadi JA. *J Natl Cancer Inst* 2011; 104: 1-13 "Patterns indicated great variation in use of accelerated partial breast irradiation with brachytherapy"); 2. In: General Surgery News Study of Accelerated Partial Breast Irradiation Sparks Debate; 3. In: U.S. News Health Day News: "For Breast Cancer Care, Radiation of Whole Breast May Be Best"; 4. Medscape Oncology news: "Breast Brachytherapy Takes a Hit (or Not)"; 5. ABC News: "Brachytherapy: Targeted Breast Cancer Treatment Comes With Risks"; 6. DoctorsLounge: "Breast Brachytherapy May Not Be Best Choice in Older Women"; 7. dailyRX: "Breast cancer brachytherapy increases risk of later mastectomy"; 8. Family Practice News: "Breast Brachytherapy Doubles Mastectomy Risk"; 9. Medical News Today: "After Breast Lumpectomy Brachytherapy Linked To More Complications Than Whole-Breast Irradiation"; 10. Medical Daily: "Brachytherapy May Require Breast Removal"; 11. Insidermedicine.com: "Brachytherapy for Breast Cancer Increases Complication Rates, Does Not Improve Survival (Interview with Dr. Benjamin Smith, MD, University of Texas MD Anderson Cancer Center)"; and so on and so forth.

The question is whether the opinions and scientific arguments put forward by brachytherapists reach the environment of patients and physicians to the same degree as a critical news published widely in the press, not only of medical care. Bad news spreads very fast, and sensational medical portals publish and copy

everything without reflection. It is very difficult to undo this. Responsibility for the word has disappeared. You can have doubts about whether what is lurking in the shadows is not the interests of communities for the development of brachytherapy but the withdrawal of the market. And what happens in the U.S. is often transferred to other countries in the world and is a model for radiation oncologists.

It is interesting that materials and publications demonstrating high efficacy of brachytherapy, or even its unique value in the treatment of some cancers, are not as prominent in the news and mass media, including medical circles. The environment of brachytherapists clearly lacks a wallop. An example of a very important and excellent report (meta-analysis) on the results of treatment of prostate cancer by various methods is the article published by Peter Grimm *et al.* in BJU Int 2012, Vol. 109 (Suppl 1), 22-29. Prof. Grimm is the Head and Research Coordinator of Prostate Cancer Center of Seattle. This is a summary of thousands of articles on prostate cancer treatment prepared by an international team of 27 specialists from the U.S., Europe and Australia, including former and current heads of ASTRO. Their work proves that you can compare different treatments remembering the fundamental principle which guides us on the job – higher interests of the patient.

Authors wrote (the whole abstract is worth citing): "This is the first large scale comprehensive review of the literature comparing risk stratified patients by treatment option and with long-term follow-up. The results of the studies are weighted, respecting the impact of larger studies on overall results. The study identified a lack of uniformity in reporting results amongst institutions and centres. A large number of studies have been conducted on the primary therapy of prostate cancer but very few randomized controlled trials have been conducted. The comparison of outcomes from individual studies involving surgery (radical prostatectomy or robotic radical prostatectomy), external beam radiation (EBRT) (conformal, intensity modulated radiotherapy, protons), brachytherapy, cryotherapy or high intensity focused ultrasound remains problematic due to the non-uniformity of reporting results and the use of varied disease outcome endpoints. Technical advances in these treatments have also made long-term comparisons difficult. The Prostate Cancer Results Study Group was formed to evaluate the comparative effectiveness of prostate cancer treatments. This international group conducted a comprehensive literature review to identify all studies involving treatment of localized prostate cancer published during 2000–2010. Over 18 000 papers were identified and a further selection was made based on the following key criteria: minimum/median follow-up of 5 years; stratification into low-, intermediate- and high-risk groups; clinical and pathological staging; accepted standard definitions for prostate-specific antigen failure; minimum patient number of 100 in each risk group (50 for high-risk group). A statistical analysis (standard deviational ellipse) of the study outcomes suggested that, in terms of biochemical-free progression, brachytherapy provides superior outcome in patients with low-risk disease. For intermediate-risk disease, the combination of EBRT and brachytherapy appears equivalent to brachytherapy alone. For high-risk patients, combination therapies involving EBRT and brachytherapy plus or minus androgen deprivation therapy appear superior to more localized treatments such as seed implant alone, surgery alone or EBRT. It is anticipated that the study will assist physicians and patients in selecting treatment for men with newly diagnosed prostate cancer".

This raises the question whether it is worth financing much more expensive procedures like External Beam Radiation Therapy (IMRT) or Proton Radiotherapy if the results of brachytherapy (many years of observations) are so good? And why isn't it in the news on the front page? We remember that examples are taking…

Nine manuscripts are published in this issue of JCB – two clinical investigations concerning prostate cancer (contrast-enhanced ultrasound as support for prostate brachytherapy treatment planning) and case series analysis of post-brachytherapy prostate edema and its relevance to post-implant dosimetry. We further publish a review article about physics aspects of dose accuracy in high dose rate (HDR) brachytherapy and three original investigations in physics. They concern such most interesting subjects like: 1. A novel method for vaginal cylinder treatment planning: a seamless transition to 3D brachytherapy, 2. Impact of interfraction seroma collection on breast brachytherapy dosimetry and 3. Dose correction in lung for HDR breast brachytherapy. In one case report, two patients with vaginal cuff dehiscence after intracavitary brachytherapy for endometrial cancer are presented. Subsequently, in a preliminary report authors compare GTV coverage by PTV and isodose of 90% in 2D and 3D planning during endobronchial brachytherapy. We also publish in the educational corner an overview of guidelines for prostate cancer brachytherapy. We encourage you to read reports of experienced international teams of researchers. We wish you a pleasant reading!

Sincerely yours,
Editor-in-Chief
Janusz Skowronek, MD, PhD, Ass. Prof.