

Shared decision making in the treatment of stage I non small cell lung cancer – a choice which should equally involve both sides

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Lung cancer is one of the primary causes of cancer related deaths in the world, among which non small cell lung cancer (NSCLC) has the highest incidence (1). Until now, surgical treatment has been regarded as the standard choice of treatment in early stage (ES) NSCLC. Lobectomy with mediastinal lymph node dissection or sampling provides 50% of 5-year overall survival (OS) in these cases (2). During the previous decade stereotactic ablative radiotherapy (SABR) has been introduced with 1 to 10 fractions of high-dose radiation delivery (>100 Gy) to the patient in a relatively short time. Compared to conventional radiation OS proved to be better with SABR (3). Recently SABR has been considered a fair alternative to surgery in the treatment of stage I NSCLC (4). Results of phase 2 prospective studies showed that the OS of patients treated with SABR was similar to those treated surgically with operable stage I NSCLC (5). Furthermore disease-specific survival rates for SABR were also at least comparable with those of surgery (6). In patients undergoing lobectomy with mediastinal lymphnode dissection a higher rate of surgery-related morbidity and mortality has been experienced compared to the ones treated by SABR (7). In addition SABR may also be an equal alternative for elderly patients and those with severe comorbidities being weak candidates for surgery. However it should be emphasized, that according to the eighth edition of TNM classification

for lung cancer, differences in tumor diameter among T1 subcategories (T1a-c) are considered crucial factors which may have great influence on the outcomes of stage I NSCLC, thus affecting individualized treatment planning (8). In terms of SABR another topic of debate is possible disease recurrence at untreated sites (same lung lobe, hilum, mediastinum). Furthermore, while surgically treated patients usually undergo nodal sampling during each procedure (which contributes to precise staging), those treated by SABR undergo CT, PET-CT or endobronchial ultrasonography which due to possible false-negative/false positive results—may cause stage migration (9). According to the meta-analysis by Deng *et al.* (10), conducted among 13,598 ES-NSCLC patients (in 12 cohort studies) on the outcomes of SABR, lobectomy and sublobar resection, SABR showed significantly lower 3-year OS and an increased hazard ratio (HR) compared to surgery. However most recent studies dealing with the comparison of the two methods lead to the conclusion that surgery (lobectomy) remains the gold standard of treatment in patients with ES disease (11). Bahig *et al.* emphasized the “moving target of equipoise”, underlining the fact that health-related quality of life (HRQoL), cost-effectiveness and treatment-related mortality risk may also be additional factors in comparing surgery and SABR (12). The article cites that in case of marginally operable patients SABR-, whereas in clearly operable patients lobectomy

proved to be the most cost-effective option of treatment (13). Health related quality of life also plays an important role for most ES lung cancer patients. In several randomized controlled trials (RCTs) HRQoL after surgery was associated with decreased physical function after 6 months, even though the mentioned trials were closed early due to poor patient accrual (14). Based on the above data one could be entitled to presume that the two treatment options are equally effective. In fact SABR offers a less aggressive treatment on an outpatient basis. Surgery on the other hand, maintains more accurate staging with histological analysis of removed lymphnodes contributing to the successful control of the disease. Deciding between the two seemingly equivalent methods demands knowledge of every patient aspect in order to provide personalized treatment during which shared decision making (SDM) could be helpful.

SDM is a process during which the clinician and the patient work closely together in order to reach a common goal, by considering the benefits and drawbacks of each treatment option (15). SDM closely involves and encourages patients to form an individual opinion on their condition and actively take part in treatment decision making. We read with interest the survey conducted using 16 hypothetical vignette cases sent to clinicians via email resulting in the recruitment of 126 participants (51.4%) including thoracic surgeons (13.5%), pulmonologists (57.9%) and radiation oncologists (28.6%). During the evaluation of cases both patient and clinician characteristics were measured. Parameters such as patient age, COPD status, comorbidity index, WHO (World Health Organization) performance status, preference for SABR *vs.* surgery were involved. Conversely, physicians had to express their opinion on whether SABR and surgery were considered to be equal treatment options and whether doctor or patient should have been the one making the final treatment decision (16). Hypothetical cases are probably a limitation to this study resulting in the lack of face to face doctor-patient interactions, the ability to measure the rate of actual consultations with the primary care physician (PCP)—and the feedback on SDM from the patient. However, PCPs such as pulmonologists, radiation oncologists and thoracic surgeons are all involved in cases dealing with stage I NSCLC with the constant dilemma whether SABR or surgery (lobectomy) would be the most optimal choice of treatment.

In the process of SDM patient opinion plays a major role; hence equally involving both parties during the process

seems to be an optimal choice. Letting patients describe the illness with their own words is not only easier in expressing their true opinion but may also resolve concerns between doctor and patient. However if both opinions are considered equally significant where should we draw the line? Which opinion should be emphasized? Should HRQoL and patient point of view or expertise and personal beliefs of the health professional be paramount?

The study reports that 54.8% of clinicians thought that SABR and surgery were equal treatment options and 54% chose to involve patients by applying SDM. In order to measure clinician (un)certainty on treatment recommendations a scale from 1–7 (7 being most uncertain) was used which showed an average score of 2.48 with a relative uncertainty (score 3 or higher) in 41.9% of PCPs. Clinicians' treatment recommendations were more concurrent in cases of elderly patients preferring SABR, which seems acceptable since SABR is conducted on an outpatient basis with better HRQoL (17), which are important factors for elderly patients. Interactions observed from the clinician's point of view provide a good basis for discussion since this factor has not frequently been analysed. We found three clinician centered interactions: (I) between patient preference and clinician's speciality; (II) between patient preference and the clinician's opinion on the two methods being equivalent and (III) between clinician's certainty and speciality (16). The speciality of the physician undoubtedly played a major role in SDM resulting in the preference of either treatment option. According to the results of the first interaction, thoracic surgeons usually preferred surgery (to SABR), thus the two choices were in line when the patient also preferred surgery. On the other hand radiation oncologists and pulmonologists preferred SABR (to surgery), hence the two opinions were more in keeping when the patient also preferred SABR (16). The results clearly highlighted the subjective role of physician's speciality during SDM (18). However most professionals probably agree on the fact, that favouring the medical speciality which one deals with on a routine basis is inevitable.

In case the PCP considered the two treatment options to be equivalent (second interaction), with patient preference of SABR, SABR was agreed (16). Conversely in cases where PCPs did not consider the two methods to be equal, the two opinions were more in keeping with surgery if the patient also chose to be operated on. The results of the third studied interaction showed that when pulmonologists and radiation oncologists were uncertain about their

recommendation patient preference played a lesser role in SDM while in case of thoracic surgeons, uncertainty of the physician resulted in a greater acceptance of patient opinion (16).

Even though the study dealt with hypothetical cases, it is interesting to see how the three types of medical professionals cooperated during SDM. Apparently each specialist had a predilection for his/her own field of expertise which may be considered elementary during the process. However the importance of SDM during routine clinical practice still seems to be underestimated. According to a recent study on clinicians dealing with ES-NSCLC, 26% of surgeons, 20% of pulmonologists and 12% of radiation oncologists claimed the regular use of SDM during routine patient care and a somewhat similar percentage thought that patients should be involved in the treatment decision process (19). These numbers clearly indicate the infant state of SDM among health care professionals and draw attention to the fact that only a relatively moderate number of PCPs are willing to change this in the future. However mainly due to differences in socio-economic backgrounds and possible lack of disease related information not all patients manage to properly understand medical terminology, a factor which clearly contributes to the limitation of SDM. Nonetheless previous studies have demonstrated that those patients who initially did not want to participate actively in treatment decision making did want to get involved after detailed information was provided (20). During the evaluation of the study it should also be mentioned that the overall response rate from physicians was only 50% and there were much fewer thoracic surgeons than pulmonologists and radiation oncologists among the recruited clinicians. The results point out that SDM is still a relatively unknown and sporadically applied method in routine patient care with some level of negligence from the clinicians' side, especially in case of hypothetical vignette cases.

In conclusion, SDM should probably be better promoted among both patients and physicians due to the fact that it makes doctor-patient relationships much more reliable based on a more detailed information which, in turn, results in improved patient compliance. Both parties need development in terms of communication and weighing of evidence based information. Most importantly physicians need to carve out time for discussing detailed treatment options with patients and patients should be provided with initial information about their condition, thus being able to possess basic information prior to consultations. Eventually a need for RCTs with sufficient number of participants

from both sides is a current urgency in order to clarify true benefits and pitfalls of SDM, thus contributing to the most optimal choice of treatment.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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