How to improve the ratio between harms and benefits

Emerging changes in prostate cancer screening and treatment

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Prostate cancer screening has been demonstrated to reduce mortality by 21% to 51%, depending on screening compliance, contamination of the control group and time of follow-up [1]. However, screening geared to early detection in almost every case carries the risk of overdiagnosis. This may result in overtreatment, which can reduce quality of life. Three contributions (the first one published in this issue, the remaining ones following in the next two issues of the *Swiss Medical Forum*) provide guidance as to how to reduce the harms of screening. If utilised, these should result in the rehabilitation' of screening and reduce prostate cancer mortality at an acceptable cost.

1. How to screen? Risk-adapted screening introduced by *Recker et al.* diminishes overdetection and therapy. On the basis of Swiss ERSPC (European Randomized Study of Screening for Prostate Cancer) 14-year long-term data they developed a multiparametric risk calculator that can prolong the interval between prostate specific antigen (PSA) checks in 50% of men, with up to 7 years between screening tests. Further, men at risk will have appropriate diagnostic procedures early. The risk calculators, named "ProstateCheck", are available as an app for family physicians and urologists. The important role of free PSA is emphasised. This prospective data set is supported by the retrospectively evaluated *Malmö Preventive Project*, where PSA was found to be a powerful prognostic parameter for predicting the long-term risk of clinically significant prostate cancer [2].

2. Active surveillance (AS) has the potential to reduce overtreatment of screened patients. Adoption of surveillance for low-risk patients would reduce the number needed to be treated substantially [3]. The AS work of *Iselin et al.,* which documents the indications for AS in Swiss cohorts, will make a great contribution towards preventing unnecessary treatment. For most low-grade prostate cancer in screened men, AS has become a valuable treatment option. Pathological Gleason 6 tumours are the best candidates because it has been shown that they lack the potential to metastasise [4]. The problem of contemporaneous occult Gleason 7 or higher carcinoma at diagnosis is a potential confounder. However, the rising role of magnetic resonance imaging in detecting these cancers will lead to better diagnosis and management of these candidates [5].

3. With respect to new therapeutic procedures, *Eberli et al.* described the use of high intensity focused ultrasound in intermediate risk prostate cancer patients. HIFU is thought to produce fewer potency or continence problems, particularly with unilateral or focal treatment. Current studies are evaluating whether hemiablation of the prostate will have fewer side effects and comparable long-term oncological outcomes as compared with the standard treatment of prostate cancer. This is an open book.

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In summary, the face of prostate cancer treatment is changing rapidly. Screening is becoming much more sophisticated as we use the data collected during past years. The times when "one size fits all" are definitely over.

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