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# Excessive Surgery and Palliative Medicine: Report from Russia

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**Abstract**

The main topic of this review is excessive use of invasive procedures in Russian healthcare. More details, images and documentary evidence are in a recently published book. Clinical recommendations are generally avoided here. Topics related to the themes of this journal are discussed: overtreatment of malignant glioma, of thyroid lesions; overuse of radical mastectomy with removal of pectoral muscles in disseminated breast cancer. Factors contributing to the persistence of suboptimal practices in Russia include a partial isolation from the international professional community, shortages of medical education, unavailability of many internationally used handbooks. Admittedly, foreign literature is available on the Internet today, many guidelines being adjusted to international standards.

**Keywords:** Healthcare; Russia, Medical Ethics; Glioblastoma; Thyroid Cancer; Breast Cancer

## Introduction

The author has gathered information on the excessive use of invasive procedures in the Russian healthcare, summarized in the recently published book with images and documentary evidence [1]. Some human factors and guidelines have not substantially changed since the Soviet time, so that persistence or comeback of outdated methods is not excluded. Suboptimal practices are used as per instructions by healthcare authorities and leading experts' publications. The lacking professional autonomy has been a contributing factor [2]. Manipulation of statistics has been not unusual [3]. In conditions of paternalism, misinformation of patients, persuasion and compulsory treatments are deemed permissible [4]. Justifications of surgical hyper-radicalism could be heard in private conversations among medics, for example: "The hopelessly ill are dangerous" i.e. may commit reckless acts undesirable by the state. One of the motives to overuse invasive procedures was personnel training, among others, with the purpose of readiness for war. Some invasive methods with questionable indications have been advocated by military surgeons [1]. In this connection, the limitations of medical education in the former Soviet Union (SU) should be mentioned. The Soviet period brought about an expansion of admission numbers to universities and medical educational institutions, sometimes with insufficient regard for the quality of the academic preparation of students [5]. Of note, military and medical ethics are not the same. The comparatively short life expectancy is a strategic advantage as it necessitates less healthcare investments and pensions. Military functionaries and their relatives will become more dominant thanks to the Ukraine war. Those participating in it, factually or on paper, are obtaining the veteran status and privileges over fellow citizens. Some of them will occupy leading positions at universities, scientific and healthcare institutions, without adequate preparation and selection.

Certain outdated practices have persisted since the Soviet time. For example, the negative appendectomy rate has been relatively high thanks to the widely used histopathological descriptions of "simple", catarrhal and chronic appendicitis not requiring acute inflammation for the diagnosis. Appendices histologically indistinguishable from the norm or surgery-related histological changes have been described by pathologists as compatible with appendicitis, surgeons receiving no proper feedback. Various invasive methods have been applied without indications in people diagnosed with alcohol-related disorders [6]. Furthermore, cauterization of cervical ectropions (called erosions or pseudo-erosions) have been used without preceding Pap-smears. As before, the cauterization of cervical ectopy is claimed to prevent cervical cancer. There is a shortage of trained laboratory technicians for the primary screening of gynaecological and other smears [7]. A series of studies with the overuse of cystoscopy and biopsy in connection with the overdiagnosis of malignant and premalignant bladder lesions [8] has been commented [9]. We

don't know whether cystectomies followed the overdiagnosis but there have been cystoscopies and "mapping biopsies" without sufficient indications. Further examples from surgery, endoscopy and paediatrics are in the book [1].

## Breast cancer

According to a review, the incidence of breast cancer (BC) in Russia is considerably lower than in the rest of Europe, North and South America, while mortality thereof is approximately on the same level. This has been interpreted as indication to low reliability of registration and efficiency of diagnostics [10]. The mean diameter of cancers in surgical specimens was larger in Moscow university clinics than at West European hospitals according to the author's estimation following repeated practice of pathological anatomy in other countries (1990 to 2008). This indicated a higher efficiency of cancer diagnosis in Europe. Another distinction is that virtually all mastectomy specimens abroad were without muscle. Leading specialists recognized the fact that Russian senology did not follow for decades the global trend toward a more sparing BC management [11]. In several 21st-century papers, textbooks, and monographs, the Halsted procedure with resection of both Pectoralis muscles was designated as the main or single treatment option for BC [12-15]. In a handbook re-edited 2018, the Halsted operation is defined as the "most typical and commonly used radical mastectomy" [16]. In the oncology textbook published 2020, the Halsted procedure is defined as the "standard radical mastectomy" without further commentary [17]. Articles dated 2011 and later designated Halsted procedure as one of the main operations for BC. This method has been used and recommended also as a palliative procedure in disseminated BC [12,18,19], which is hard to comprehend physiologically. The radical mastectomy of Patey with the removal of pectoralis minor muscle prevailed until recently; details and references are in the book [1].

## Glioblastoma

In 1980-1981 the author worked as a nurse at an intensive care unit of a neurosurgery department of the Botkin hospital in Moscow. Patients with glioblastoma (Gbl) were routinely operated on, while it was believed by some staff that the treatment was generally useless, just constraining many patients to spend the rest of their lives in bed. The directive to apply the largest possible radical operations for gliomas was issued at the 1959 and especially 1966 Conferences of Neurosurgeons [20]. Advanced age was not regarded to be an obstacle to the radicalism [21]. Later on, microsurgery, intra-operative imaging and other novel methods lead to a reduction in the surgical morbidity. However, despite extensive research, prognosis has not changed significantly in the last decade [22]. Arguments against resection are based on the invasiveness of Gbl, which cannot be totally removed as a rule; in addition, there might be a tumour cell spreading due to the operation, additional neurological deficits and other complications [23]. Resection using microsurgical techniques is considered standard of care, although the role of surgery has been difficult to define in controlled clinical trials [24]. The evidence is weak in terms of both the number of trials and their robustness [25]. The retrospective design of the studies has raised concerns about selection bias [26]; that is, some tumours are more resectable than others, the latter having on average better prognosis. Accordingly, the impact of surgery may be an epiphenomenon [27]. It is often argued that a prerequisite of glioma diagnosis is resection or biopsy, both methods being invasive and associated with risk. Of note, intracranial malignancy can be diagnosed in some cases by imaging and "liquid biopsy" [28]. Improvements of preoperative diagnostics must limit indications for the trepanation.

The volume of residual tumor after surgery correlates negatively with the outcome; however, it it is unclear whether the extent of surgery improves the outcome or whether tumours amenable to resection have on average more favorable prognosis [24]. If even the outcomes of surgical treatment are rated as good, some patients remain with neurocognitive deficiency or otherwise deterioration of the life quality [29]. Although evidence suggests that surgical excision improves the outcome in most cases, it is often associated with morbidity [30]. There are indications that standard therapy including surgery may be not always in patients' best interest [31]. Without surgery, some patients receiving symptomatic therapy could use remaining months to complete their life's work. Reportedly, the palliative care increases the number of patients who survive more than two years approximately 3-fold compared with those declining the treatment in whole or in part [32]. Existing methods of therapy are not questioned here. It is important that patients (and/or caregivers if the patient's thinking capacity is impaired) must be objectively informed about potential benefits and risks of different treatments. Informed consent is mandatory for all surgical candidates [33]. Tacit consent should not be supposed, in particular, regarding end-of-life decisions [34]. All the above is of particular importance for the elderly. For aged patients with newly diagnosed Gbl, current recommendations include surgery; however, some studies indicated that in patients aged ≥65 years, median overall survival is only modestly improved or that there is no improvement with resection compared to biopsy [26,35]. Treatment strategies should be balanced against patient-specific factors and quality-of-life concerns [36].

Many patients and their relatives access information on the Internet. The information available online is not monitored [37]. In Russia, media tend to trivialize risks and discomfort associated with surgeries and other invasive procedures. Some medical men on YouTube claim that new techniques enable to radically remove deep-seated Gbl without damaging brain structures. Unlike other countries, public libraries are rarely used in Russia and generally contain no professional literature. Medical libraries are hindered from using by the general public [38]. Some


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professional publications recommending invasive procedures apply misquoting, for example: "The average life expectancy for malignant gliomas in patients receiving only conservative therapy was 9 weeks - 6.6 months" [39] with references [40-42]. However, in the quoted sources the survivals were longer. Other examples of misquoting are discussed below and elsewhere [2,43]. Surgeries are often presented by media as something a priori beneficial, conductive to good convalescence; while side effects, risks and procedural quality are not mentioned. It has been reasonably recommended that medical institutions and professionals must work to produce more reliable content in order to improve the availability of credible health information for patients [37].

## Thyroid nodules

Overtreatment of thyroid nodules after the Chernobyl accident has been overviewed in the book [1]. Several considerations related to the themes of this Journal are delineated here. In a recent study, total thyroidectomy was conducted in 405 from 465 (87.1%) thyroid microcarcinoma [emphasis added] patients. Recurrences were diagnosed in 1.3% of the cases only (average observation 5.2 years) [44]. According to the recent research, decennial follow-up of "Non-invasive Follicular Thyroid Neoplasms with Papillary-like Nuclear Features" (NIFTP), partly overlapping with microcarcinoma, demonstrated a mortality risk ≤1%. Papillary microcarcinoma had a cancer-related mortality 0-4% [45]. Obviously, total thyroidectomy is an overtreatment for many cases of NIFTP and/or microcarcinoma diagnosed pre-operatively. In a large-scale study, no survival advantage has been found to be associated with total thyroidectomy over lobectomy for papillary TC ≤4 cm [46]. The frequency of regret about chosen treatment in microcarcinoma patients after thyroidectomy was 24.2% compared to 3.4% among those under active surveillance [47].

Some experts from the former SU recommended radioiodine therapy for patients with thyroid microcarcinoma [48] or TC in general [49]. High-dose (40 Gy) external radiotherapy of Chernobyl-related TC, combined with radical surgery, was recommended as well [50]. Considering potential adverse effects, the American Thyroid Association (ATA) and other guidelines supported selective approach to the radioiodine treatment, in particular, for younger individuals having intrathyroidal papillary carcinoma with no or limited metastasizing [51,52]. Radiotherapy has sometimes been overused in the former SU especially after radical surgery for well-differentiated cancer with no detectable lymph node involvement.

Another study encompassed the period 1990-2005 and 936 TC patients from Belarus (600 females and 336 males, mean age at the time of surgery 14.4 years). During the observation period (12.4 years on average), 17 patients died. The causes of death included 7 suicides and 5 trauma/accident cases; only two patients died of advancing cancer (pulmonary metastases) [53]. Especially for young females, the esthetic aspect would be of importance. The neck scar, stigma as a cancer patient, hypothyroidism as well as anxiety over effects of radiation may contribute to depression [54,55]. Both intentional and unintentional underreporting of suicides may occur; reported suicide rates being 2-3 times lower than actual figures. Policymakers, authorities, medics and families may cover up suicides [56]. The sources [57-59] were misquoted to support the recommendation: "The most prevailing opinion calls for total thyroidectomy regardless of tumor size and histopathology" [60]. In the cited publications the subtotal resection is discussed. Along the same lines, the sources [58,61,62] were misquoted in [49].

## Conclusion

There is a hypothesis that one of the motives to apply invasive procedures with questionable clinical indications has been personnel training, among others, with the objective of readiness for war. Military and medical ethics are not the same. Ethical and legal basis of medical practice and research has not been sufficiently known and observed in Russia. The term "deontology" is often used for medical ethics. Textbooks and monographs on deontology explained the matter somewhat vaguely, with not much practical guidance. In this connection, more international cooperation and mutual trust is needed these days. Practical recommendations must be based on reliable and reproducible research. Only such research should be included into reviews and meta-analyses.

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