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Over use of Surgery in Russia and Belarus: An Update

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Abstract

The main topics of this review are invasive procedures used today or in the recent past in Russia without sufficient indications. Besides, overtreatment of thyroid nodules in Belarus is discussed. Numerous examples of overtreatment have been described with documentary evidence in a recednlly published book. Invasive methods were applied without sufficient indications in people diagnosed with alcohol-related disorders, also for research. Cauterization of endocervical ectopies without a preceding Pap-smear has been applied. Exessive radicalism of breast cancer management, overuse of surgery for peptic ulcers and certain respiratory conditions are discussed here in more detail. Some contributing factors have remained since the Soviet time: the authoritative management style, paternalism and partial isolation from the international scientific community. Admttedly, free Internet resources are helpful. Considering shortcomings of medical practice, research and education, governmental directives and increase in funding is unlikely to be a solution. Measures for improvement of the healthcare in Russia must include participation of authorized foreign advisors.

Introduction

The main topic of this review is excessive use of invasive procedures in the Russian healthcare. More details, images and documentary evidence are in the book [1]. Clinical recommendations are generally avoided here. This made possible to limit citation of international literature: the number of references supporting the argumentation is large already. It is known that invasive procedures can exert a placebo effect, which might have contributed to reported efficiency of some methods discussed here. However, by definition, placebo must be free of risks and adverse effects. Factors contributing to the persistence of suboptimal practices in the Russian Federation (RF) include a partial isolation from the international scientific 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. It is taken for granted and nobody gives thanks. On the contrary, some writers analyze complications of therapy in foreign countries without mentioning similar phenomena in RF [2].

Some human factors have remained from the Soviet time. Outdated practices have been used as per instructions by healthcare authorities and publications by leading specialists. In conditions of paternalism, misinformation of patients, persuasion and compulsory treatments are deemed permissible. One of the motives to overuse invasive procedures has been personnel training, among others, with the purpose of readiness for war [1]. For example, the negative appendectomy rate has been relatively high in RF thanks to the widely used histopathological diagnoses of "simple", catarrhal and chronic appendicitis not requiring acute inflammation for the diagnosis. Appendices histologically indistinguishable from the norm or surgery-related artefacts have been habitually 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 [3]. Furthermore, cauterization of endocervical ectopies (called pseudo-erosions) without epithelial dysplasia have been applied routinely. The ectopies were found at mass examinations and treated by coagulation [4]. This unpleasant procedure does not protect from cervical cancer and disagrees with the international practice. In particular, the recommended treatment of large ectropions by diathermoconization was noticed to be associated with complications. As before, the treatment of cervical ectopy is claimed to prevent cervical cancer [5]. At the same time, Pap-smears have been rare and technically suboptimal; cervical cancer being detected averagely late. There is a shortage of trained laboratory technicians for the primary screening of gynecological and other smears [4]. Further examples from surgery, endoscopy and pediatrics are in the book [1].

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. For example, glioblastoma patients have been routinely operated on, while it was believed by some staff that the treatment was often not indicated, just forcing patients to spend the rest of their lives in bed [6]. Apparently, for the same purpose Halsted operation was used as a palliative procedure in dessiminated breast cancer (discussed below). 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 were advocated by first generation 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 little regard for the quality of the academic preparation of students [7]. Of note, military and medical ethics are not the same. The comparatively short life expectancy in RF 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 hence privileges over fellow-citizens. Some of them will occupy leading positions at universities, scientific and healthcare institutions, without adequate preparation and selection.

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Breast cancer

According to a review, the incidence of breast cancer (BC) in the Russian Federation (RF) is considerably lower than in the rest of Europe, North and South America, while mortality thereof is approximately on the same level. This is indicative of comparatively low reliability of registration and efficiency of diagnostics in RF [8]. The average size of malignant tumors in surgical specimens was larger in Moscow university clinics than at West European hospitals, according to the author's estimation following repeated practice of pathology 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 lacked muscle. Leading specialists recognized that Russian senology had not followed the global trend toward a more sparing BC management for decades [9]. The Halsted operation, which involved removing both pectotal muscles, was a common modality in the 1980s and, to a lesser extent, in the 1990s [10-12]. In several 21st-century papers, textbooks, and monographs, the aforenamed procedure was designated as the foremost or single surgical treatment for operable 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 disfiguring method has been used and recommended also as a palliative procedure in disseminated cancer [12,18,19], which is hard to comprehend physiologically.

Even more extensive methods were applied e.g. the Kholdin operation, where a part of the sternum is removed en bloc with the breast, pectoral and parts of intercostal muscles, fragments of ribs, axillary and subscapular fat [20,21]. Operations with the muscle removal were applied also in aged patients [22]. Over the years, adverse effects of the Halsted procedure had become evident. Therefore, certain leading surgeons recommended the Patey operation with excision of only the *M. pectoralis minor* for early (stage 1-2) cancers in lateral quadrants [23,24]. Others advocated the Halsted procedure [25,26]. The latter experts changed their attitude in favor of Patey because supposedly "insufficient radicality can be compensated by radiotherapy" [27]. The radiotherapy has sometimes been overused in RF, being recommended after a radical mastectomy with no evidence of nodal disease [28], which is generally at variance with the international practice. Today the recommendations tend to be adjusted to international guidelines thanks to free Internet resources.

The Patey operation has been broadly applied in RF. Tumor infiltration of the the smaller pectoral muscle has never been seen; its extraction from under the *M. pectoralis major* requires time, while blood loss may be comparable with that at the Halsted procedure [23]. In recent publications, the Patey operation has been discussed as a usual routine [29-31]; but the preservation of both pectoral muscles has finally become predominant. Considering the breast cancer incidence, millions of women of different ages have needlessly lost their *Pectoralis* muscles.

Guidelines are now modified in accordance with global trends. Another extreme has come to the fore: mastectomy without the removal of pectoral muscles is referred to as "mutilation" while the breast-prerving and reconstructive surgery is propagated [32]. One of the incentives is that patients pay for plastic surgery. Accordingly, some patients get biased advice. Patients should be objectively informed about potential risks associated with breast-conservation and reconstructive surgery.

Gastric and duodenal ulcers

Reportedly, there are 3 million patients diagnosed with gastric or duodenal ulcer in RF, of which every tenth has been operated. Over 100,000 operations are performed annually for peptic ulcers, including about 60,000 gastric resections (gastrectomies) [33]. The management of gastro-duodenal ulcers in the former SU has been different from the international practice. Gastrectomy has become the predominant method of surgical treatment of gastric and duodenal ulcers since the 24th Congress of Soviet Surgeons (1938); it prevailed in the ulcer surgery for decades, being virtually the single available modality for gastric ulcers [34-36]. Gasrectomy predominated also in aged ulcer patients. It was recommended to widen indications for surgical treatment of gastric and duodenal ulcers also in the elderly [37,38]. Resections prevailed among second surgeries after unsuccessful vagotomy or suturing of perforated ulcers [39,40]. The 8th All-Russian Congress of Surgeons (1995) promoted the 2/3 distal gastrectomy both for elective and emergency gastric and duodenal ulcer surgery [41]. The well-known surgeon Sergei Yudin (Iudin in some recents datsabases) was a protagonist of hyper-radicalism [42]. Yudin was one of the top specialists in the Red Army during the Second World War. His methods involved broad muscle and bone excidsions in lieu of wound drainage [42]. "Unhesitatingly excise muscular tissue to access fractured bone" [43] was his motto. The former health minister Boris Petrovsky noticed that Yudin's hyper-radicalism, followed by other military surgeons, caused hemorrhages, permanent defects of bone and soft tissues [44,45].

Apparently, Yudin's reports on consequences of gastrectomy for ulcers were biased: ostensibly 92-94% complete cure, no complaints related to the surgery, "transient and benign" post-surgery diarrhea in 5-8% of cases [46]. It is known that many patients after gastrectomy have significant symptoms including dumping syndrome: in nearly 20% of all cases undergoing operations involving the pyloric sphincter [47]. According to a recent review, dumping syndrome (often including diarrhea) occurs in up to 40% of patients after gastrectomy [48]. Yudin concluded that near-total gastrectomy is indicated to a majority of patients with peptic ulcers. His writings have been republished with favorable editorial commentaries [46]. References to Yudin's publications continued until recently, quoting among others that he had performed gastrectomy in 75% of perforated ulcers. According to Yudin's teachings, the pylorus and lesser curvature must be removed both in gastric and duodenal ulcers [46,49]; in cases of the latter, the volume of resection could be even larger [49]. In the 1990s, a pylorus-preserving gastrectomy was propagated [36].

The concept of primary gastrectomy for perforated ulcers has been supported by many Russian surgeons [50-55]. This generally disagreed with the international ptactice. The currently remaining indication to gastric resection for peptic ulcer is a defined risk of cancer in an unhealed ulceration, and seldom a recurrent therapy-resistant peripyloric ulcer [56]. Urgent gastrectomy for perforated peptic ulcer is generally not recommended [57]. According to the author's

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observations, resections were comparatively rarely performed abroad for peptic ulcers; their volume was smaller, often corresponding to antrectomy. For perforated ulcers, a local excision was usually performed, while a ring-shaped specimen of the ulcer was sent to the pathologist. Laparoscopic repair is used increasingly these days. Like in many topics discussed here, recommendations are currently adjusted to international patterns thanks to the PubMed and other gratis databases. A drastic decrease in elective gastrectomies confirms the fact of overtreatment in the recent past.

The attitude delineated above is reappearing, notably, in publications from military-medical institutions [33]. Obviously, the military needs more experienced surgeons in view of the current warmongering. In recent publications, gastrectomy (resection) has been designated as the most frequent, main or single surgical treatment of gastric ulcers [33,40,49,58], designated universal operation applicable for any ulcer location [33]. As before, appeals to "radicalism" in ulcer surgery can be heard. Gastric ulcers are listed in the first place among indications for gastrectomy, accompanied by duodenal ulcers with "humoral or mixed secretion type". Gastrectomy is generally recommended for gastric ulcers; as well as for peripyloric one's excerpt for small ulcers without humoral hyperacidity and motoric derangements, when selective proximal vagotomy can be considered. Antr- or gastrectomy is proposed as a choice also for duodenal ulcers. As in some papers cited above, advantages of early surgery for uncomplicated ulcers are emphasized [33] under the motto "surgery must come before complications" [49]. Pre-operative "psychological preparation" includes sedation but not discussion of treatment choices [33]. For perforated gastric ulcers, 2/3 (or more) distal gastrectomy is advocated [33]. The ulcer excision is not mentioned [33,40,58].

Thyroid tumors

Neither research on atomic bomb survivors nor experience with radioiodine could have predicted the early rise in the registered incidence of thyroid cancer (TC) after the Chernobyl accident [59-64]. Before the accident, the former SU had a much lower detection rate of pediatric TC than other developed nations, most likely due to the lack of attention to the thyroid and lower diagnostic quality [65,66]. Regardless of size, all thyroid nodules were considered as potentially malignant at that time. Experts doubted reliability of histo- and cytological diagnostics [67]. Intensive screening in the contaminated areas found advanced neglected malignancies, interpreted as rapidly growing radiogenic cancers. In 1990, the year that regulations on Chernobyl social protection were issued, there was a rapid increase in the diagnosis of diseases under this category. International observers noticed that many claims of that kind had been unproven [68]. Obviously, some patients were brought from outside and registered as radiation-exposed on the basis of biased or wrong information.

Prior to the accident, TC had been infrequently diagnosed in pediatric patients of the former SU: in Belarus between 1981 and 1985, there had been only three cases under the age of 15, the annual rate per million being 0.3; in Ukraine, the corresponding figures were 25 vs. 0.5 for the whole country and 1.0 vs. 0.1 for the partly contaminated northern provinces [69]. The following pre-accident incidence rates were reported by the International Agency for Research on Cancer: "In the whole of Belarus, by 1995, the incidence of childhood thyroid carcinoma had increased to 4 cases per 100000 per year compared to 0.03-0.05 cases per 100000 per year before the accident" [70]. As per the data from the Surveillance, Epidemiology, and End Results (SEER) Program, the TC incidence is approximately 8.5 per million per year, 2.1% being diagnosed at the age ≤20, which corresponds to the annual incidence rate in the latter age group of approximately 1.8 per million [71]. According to the American Thyroid Association (ATA), thyroid cancer is more common in older children with incidence rates of ≤1 cases/million/year in those ≤10 years old; 3.5 in 10-14 years old; and 15.4 cases/million/year in adolescents 15-19 years old [72].

The figures presented above indicate that there had been considerable number of undiagnosed pediatric TCs in the former SU before the Chernobyl catastrophe. More than 90% of children in contaminated areas were examined for thyroid nodules every year by means of ultrasonography and other methods. Evidently, the vast scale screening resulted in finding thousands of "occult" cancers [73] and some overdiagnosis as TCs of lesions with uncertain malignant potential, hyperplastic papillary nodules etc. Besides, the contaminated territories overlap with endemic iodine deficient zones [74]. The frequency of TC tends to be elevated in iodine-deficient areas i.e. independently of radiocontamination [75].

Considering the above, the claim that "in children born a year after the Chernobyl disaster, the age-specific incidence rates were comparable to those expected based on the incidence trend of 1978-1986" [76] is unfounded. The pre-accident TC frequency was low, and no growth tendency was noticed. It has been repeatedly claimed without references by the same and other researchers that TC incidence in Belarus had been at the same level as in other countries [77], that is, much higher than the statistics quoted above [69,70]. Despite the normal radiation background long since, detection rates of TC in Belarus have remained elevated [76-78] probably as a result of awareness among medics and the population. Enhanced incidence of TC during the whole study period (until 2020) is shown on the graph in [76]. On the contrary to earlier post-Chernobyl TC, the highest incidence after 2003 has been determined in the age group ≥45 years at presentation probably due to the discontinued screening in younger people but higher attention to own health and coverage by medical services of older individuals [76].

Mechanisms of false-positivity have been delineated elsewhere [65]. One of them is as follows. If a thyroid nodule is found by the screening, a fine-needle aspiration biopsy is usually performed. Cytology of thyroid is associated with some percentage of uncertain conclusions, when histological verification is indicated. Patients were referred for surgery if the cytology was suspicious. Most operations consisted of a complete or partial thyroidectomy. The surgical specimen was sent to a pathologist, who sometimes confirmed malignancy of a nodule in the removed thyroid gland in cases of some uncertainty. The fine-needle biopsy was introduced into practice later than ultrasound imaging [79], which additionally contributed to the overdiagnosis and overtreatment during the 1990s. A histological verification confirmed the cancer diagnosis in ~78 % of surgical specimens [80]. The true percentage was probably higher because of the tendency to cover up false-positivity. Instable quality of histological specimens [81,82] could have contributed to the

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overdiagnosis. Back in the 1990s, cyto- and histopathological criteria of certain thyroid carcinoma varieties were known insufficiently. Some cases were overdiagnosed as cancer by reference to cellular atypism, which can occur in benign thyroid nodules. Adenomas, papillary hyperplastic and other nodules could be misdiagnosed as cancers. Illustrations from Russian-language handbooks, potentially conductive to false-positivity, have been reproduced and commented in the book [65]. Foreign handbooks of cytology and histopathology were rarely used at that time.

In regard to the surgical treatment, the following citations are telling: "Practically all nodular thyroid lesions, independently of their size, were regarded at that time in children as potentially malignant tumors, requiring an urgent surgical operation" and "Aggressiveness of surgeons contributed to the shortening of the minimal latency period" [67]. The term "latency period" is unsuitable if the cause-effect relationship is unproven; "latency" in the above context should be understood as the time between the radiation exposure and surgery. These citations demonstrate that the high expectancy contributed to the overdiagnosis and overtreatment of thyroid lesions.

Marked invasiveness and early metastasizing of Chernobyl-related TCs have been reported [83,84]; more references are in [85]. The authors of the latter article found no unusual invasiveness of TCs that developed after radiation therapy [85]. Misinterpretation of undiagnosed advanced TCs as rapidly growing radiogenic cancers resulted in an unfounded concept that TCs in radiation-exposed patients are outstandingly aggressive [76,84,86-88]. This had consequences for the practice. Thyroid surgery in some institutions has become more extensive [87-90]. A "maximally radical approach", i.e. total thyroidectomy with neck dissection plus radiotherapy, was recommended [89-93]. Previously operated children underwent completion thyroidectomy [91]. This approach is different from the more conservative one also after the Fukushima accident [94].

The overdiagnosis and "excessive activity of thyroid surgery", the overtreatment and avoidable post-surgery complications, were pointed out by the Health Minister of RF in 1998 [95]; but the overtreatmment continued, especially in Belarus [88-92]. A monograph published in 2009 compared percentages of thyroidectomies, where some functioning thyroid parenchyma had been left in children and adolescents (some of them coming from contaminated areas of Chernobyl or the Urals). For medical institutions of Chelyabinsk, St. Petersburg, Minsk, Moscow and Kiev these percentages were respectively 87.2, 64.3, 35.0, 14.2, 13.9 % [96]. After the Fukushima accident this figure was 92% [97]. Japanese pediatric papillary TCs have been different from those in contaminated areas of the former SU, being on average better differentiated [98,99], which indicates earlier tumor detection in Japan. Apparently, international comparisons of average cancer grade are informative in regard to the diagnostic quality and coverage of the population by checkups.

The Health Minister of RF ordered a revision of surgical TC specimens from patients born after 1968, residing in the partly contaminated Bryansk province [95]. The verification detected a considerable percentage of false-positivity: "Diagnosis of TC was confirmed in 79.1 % of the cases (federal level of verification: 354 cases) and 77.9 % (international level: 280 cases)" [80]. True percentages were probably higher due to the known tendency to cover up false-positivity. Insufficient quality and quantity of specimens restricted reliability of verifications.

In a later study, total thyroidectomy was performed in 405 out of 465 (87.1%) *papillary microcarcinomas* [my italics]. Recurrences were detected in 1.3% of the patients (average observation 5.2 years) [100]. As per recent research, decennial follow-up of "Non-invasive Follicular Thyroid Neoplasms with Papillary-like Nuclear Features" (NIFTP), overlapping with microcarcinoma, demonstrated a very low risk of spreading or causing other adverse effects. The level of mortality risk in patients with persistent or recurrent NIFTP was less than 1%. Papillary microcarcinoma, frequently diagnosed after the accident, had a cancer-specific mortality rate 0-4% [101]. 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 patients with papillary TCs up to 4 cm in size [102]. Of note, the frequency of regret about chosen treatment in microcarcinoma patients after thyroidectomy was 24.2% compared to 3.4% among those under active surveillance [103].

Some experts from the former SU recommended radioiodine therapy for patients with thyroid *microcarcinoma* [104] or TC in general [91], which is at variance with the international approach. Considering potential adverse effects of radioiodine, the 2009 ATA Guidelines supported the selective rather than universal administration of ^{131}I, especially for younger patients having intrathyroidal papillary carcinoma with no or limited lymph node disease [105]. Selective use of radioiodine therapy is generally advocated for papillary carcinoma with intermediate risk [106]. High-dose (40 Gy) external radiotherapy of Chernobyl-related TC, combined with radical surgery, was recommended as well [93]. As mentioned above, radiotherapy has sometimes been overused in the former SU especially after radical surgery for well-differentiated cancer with no evidence of metastasizing.

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, 17 patients died (average follow-up 12.4 years). The causes of death included 7 suicides and 5 trauma/accident cases; only two patients died of advancing cancer (pulmonary metastases) [107]. Especially for young females, the esthetic aspect would be of importance. The postoperative scar/deformity, stigma as a cancer patient, hypothyroidism as well as anxiety over effects of radiation may contribute to depression [68,108]. 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 [109].

The overdiagnosis and overtreatment of thyroid lesions should be seen within the scope of the broader problem: overestimation of Chernobyl consequences to strangulate nuclear energy production worldwide and to maintain high prices for fossil fuels. Details and references are in the book [65]. To prevent accidents, an international executive centered in developed countries must oversee the global usage of nuclear energy. Of note, one of the causes of Chernobyl accident was negligence and disregard of written instructions [110-

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112]. It would be speculation to claim that there was intent; but nothing can be excluded in a milieu disregarding laws and mores.

Respiratory diseases

Another method to be commented is the thoracic surgery with the denervation of lungs as a treatment of bronchial asthma [113-115] depicted as "the most accepted procedure" in the Guidelines by the Ministry of Health [116]. Among others, the "skeletonization" of pulmonary roots with transection of nerves, auto-transplantation of lungs (complete separation with immediate re-implantation) or cross-section of trachea with subsequent suturing were applied [115,117,118]. Stepan Babichev, the leading proponent of the asthma surgery, was a first-generation military surgeon, later the chancellor of Moscow Medical Stomatological Institute (currently named University) and assistant minster of health. The surgical treatment of asthma was officially recommended by the Health Ministry; whereas thoracotomy with lung denervation was designated as "the most accepted surgical treatment" [116]. The skeletonization was recommended both for steroid-dependent and infectious-allergic asthma [116,119]. Repeated bronchoscopies were applied post-surgery because of the bronchial drainage impairment [115].

The pulmonary denervation and lung resections were recommended also for asthma cases when drug and inhalation therapy had been efficient. It was suggested that medical treatment before the operation must be limited in time [116]. The denervation was sometimes performed simultaneously with lung resection, lobectomy or bilobectomy [120]. In this connection, a quote from the recommendations by the Health Ministry deserves attention: "The widespread concept that indication for surgery in asthma is the ineffectiveness of conservative therapy is incorrect. The presence of foci of chronic inflammation in the lungs and bronchi, even with a good effect from medical treatment, is an indication for surgery. Delaying the operation serves to involve other parts of the bronchial tree in the inflammatory process, enhances the degree of allergy, degenerative changes in the innervation apparatus and endocrine organs" [116]. Such instructions resulted in lung resections without sufficient indications.

As mentioned above, the denervation surgery was sometimes combined with removal of pulmonary segments or lobes regarded by the operators as pathologically altered [116]. Lung resections in asthma were applied also without denervation, even in the cases where drug and inhalation therapy were effective. Among indications for the surgical treatment have been focal lesions: chronic pneumonia, bronchiectasis and "bronchitis deformans" [121]. Sokolov and co-workers reported that ≤10% of their asthma patients had been operated on [122]. The operations were performed also in patients with bilateral inflammatory or fibrous lesions, both in exacerbations and in remissions, supposed to be indicated for a radical treatment of asthma. This concept was propagated by Fedor Uglov, who claimed a "resection of infected foci" to be the purpose of asthma management [121,123]. The therapy was based on his doctrine that "in 98% of cases, the cause of asthma is focal chronic pneumonia" [121].

Asthma patients were transferred from medical departments for the surgical and endoscopic treatment. "After a course of therapeutic bronchoscopies", Uglov and co-workers performed resections of the parts of lungs regarded by them to be pathologically changed [121,123]. Resections were applied in children with recurrent bronchitis and/or pneumonia; while efficiency of pneumonectomy was stressed, also in bilateral chronic pneumonia [124]. The recommendation for progressive chronic pneumonia was "lobectomy for segmentary lesions and pneumonectomy in all other patients" [125]. The claimed purpose of the operation was the removal of focal infection. Localized chronic pneumonia with bronchial lesions was by itself regarded to be indication for lung resection [121,123].

Reportedly, "dysontogenetic" lung diseases in children were a more frequent indication for radical surgery than acquired conditions; while lobe- and pneumonectomies were applied [126]. Irina Esipova, a well-known expert in pulmonary pathology, found malformations in 66% of resected specimens from children operated for relapsing pneumonia or "bronchitis deformans" [127]. The same authors claimed that, contrary to preceding publications, the lesions in the lungs were not diffuse but local, thus justifying resections. Esipova claimed that misdiagnosis of malformations as chronic bronchitis led to undue postponements of lung resections [127]. In accordance with her doctrine, pathologists described in resected lobes and segments inflammatory infiltration, fibrosis, "dystrophy" and malformations without specifying their extent and severity, while descriptions deviated from those in standard editions on pulmonary pathology, histological specimens being poor quality [127,128]; images are in the book [1]. Contemporary international literature was referenced scarcely in suchlike papers.

Certain criteria of malformations were formulated and illustrated unconvincingly: large bronchi with uneven, serrated (jagged) contours, bush-like aggregations of small bronchi and bronchioles, variously differentiated mesenchyme with lymphoid infiltration, rhythmic muscular fascicles, local agenesis of alveoli represented by connective tissue, abnormal tissues alternating with normal structures, etc. [128]. Reading descriptions by Esipova and co-workers, it is evident for an ex-Soviet pathologist that some resected pulmonary lobes or segments were not significantly abnormal: macroscopically whitish foci and coal pigment, singular cysts 2-3 mm; microscopically atypical bronchial branching, lack of a bronchus narrowing from the center to periphery, "nudity" of bronchi, hypoplasia of bronchial walls, abnormal epithelial cilia, and so forth [127]. Descriptions of this kind were sometimes used for largely normal specimens; clinical significance of the findings being unclear. However, such reports from pathology departments were suitable to justify resections.

It was noticed that many authors made no distinction between congenital malformations and developmental variants [129]. Some histological phenomena described as malformations are common in postnatal lungs normally or after resolved pneumonia [130]. It was also noticed that diagnostics of lung malformations is difficult; the percentage of wrong diagnoses amounting to 65-75% [131]. Nevertheless, the patients were operated based on the assumption that inflammatory complications are inevitable in future [131]. Some pathologists generalized that the "disease that affects children in the first year of life… determines the progressive course of bronchiectasis and necessitates surgical treatment at the age of 2-6 years" [132]. The overuse of surgery in tuberculosis is discussed in the book [1].

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Reproductive coercion and child abuse

Violence against women and maltreatment of children has been largely tolerated in RF. Authorities, teachers and neighbors in apartment blocks did not react to known cases of child maltreatment [133]. According to an estimate, the prevalence of family violence in Russia during last decades has been 45-70 times higher than in England and France [134]. There is neither uniformly agreed attitude nor consequent policies. In 2017, Vladimir Putin signed into law an amendment decriminalizing some forms of domestic violence.

The reproductive coercion (RC) is of particular importance these days. The population growth is regarded as a tool helping to the the military strength. Governmental policies aimed at the fertility elevation in Russia potentially disregard reproductive rights of women [135]. Although RC research is focused on male control of a female's reproductive autonomy, RC can be perpetrated by family members, institutions and the state [136-138]. RC can lead not only to unwanted pregnancy but also to negative health outcomes including mental disorders in the victims. Moreover, the control of reproduction may have consequences for later mothering and relationships with children [139]. Growing up as unwanted child is a miserable destiny [133]. Popular TV series in Russia depict unexpected pregnancies both in and out of wedlock as natural and unavoidable while contraception is hardly ever mentioned. The risks associated with abortions and contraception are invented or exaggerated by some literature written by medical professionals e.g. [140], let alone mass media. In November 2022, Vladimir Putin awarded the Soviet-era medal for "mother heroines" to the wife of Ramzan Kadyrov, head of the Chechen Republic. According to media, Kadyrov has 2 wives and 12 children at least. One of his sons has been promoted and decorated after he had publicly beaten a prison inmate [141]. Russian media often exaggerate the topic of violence in penal institutions obviously with the goal of mass intimidation. For example, the popular actor Leonid Kanevsky, the host and main figure behind the NTV crime documentary series "The investigation led by...", repeatedly makes exaggerating and approving remarks on harassment and lynching in Russian prisons, using the phrases like: "He didn't survive his jail term… Prison inmates don't like such people". Some functionaries, endorsing the Ukraine war, engage in moralizing, among others opposing the sex education and birth control, depicting childbearing as a duty. The propaganda and misinformation, delineated above, can be regarded as facilitation by the government of RC and of other violations.

Discussion and conclusion

Should the power in Europe shift to the East, it will come along with losses of some moral values. Disregard for laws and regulations, corruption and collectivism will come instead. The quality of many services and products will decline: spoiled foods on sale, antibiotics in milk, falsified beer and wine, misquoting of legal codes by civil servants in their correspondence, backdating of official letters, embezzlement of registered correspondence, different types of misconduct in the healthcare [142]. The autocratic management style discourages criticism. In the healthcare, attributes of this style include a paternalistic approach to patients. Under conditions of paternalism, misinformation of patients, disregard for the principle of informed consent and compulsory treatments are seen as permissible [143-145].

Suboptimal practices have been applied as per instructions by healthcare authorities and leading experts' publications. As far as we know, Soviet rulers and their heirs, the party and military functionaries (so-called Nomenklatura) [146], did not allow the use of invasive procedures without indications on themselves and their relatives, did not treat gonorrhea by tamponade and bougienage of the urethra [147]; alcoholics from their milieu have not been compulsorily treated by drip infusions being infected with viral hepatitis [3]. As for the medical personnel, it is unlikely that they cauterized cervical ectopies [4] or performed Halstead mastectomy on their relatives (discussed above). This implies that there has been conscious infliction of bodily harm. Dentistry is a special topic [148]. The access of patients to objective information is impeded: many articles in Russian professional journals are biased; the use of medical libraries is complicated by technical difficulties [149]. The book [1], donated to the Central Medical Library in Moscow (director Boris Loginov) and another author's copy sent to the National Library of Belarus, has not been entered into the catalogues and not returned despite repeated inquiries. Another book [65] has disappeared from the Belarusian catalogue https://www.nlb.by/. Finally, the obstacles to the importation of drugs and medical equipment should be mentioned. Domestic products are promoted sometimes despite suboptimal quality and possible counterfeiting.

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 hence privileges over fellow-citizens. Some of them will occupy leading positions without adequate preparation and selection. War veterans enjoy advantages in the healthcare and everyday life; there are, however, misgivings that the status has been awarded gratuitously to some individuals from the privileged milieu. At the same time, relatives of superior officers evaded conscription under various pretexts [135]. In particular, many institutions of higher education grant exemption from military service. Being not accustomed to hard and meticulous work, some of the functionaries' protégés have been involved in professional misconduct of different kind [142].

The care of war veterans is showcased today. Many real veterans had been factually helped to the grave in the period 1985-2005. The average life expectancy of men decreased to 58-59 years in the 1990s and early 2000s due to deterioration of the healthcare and toxicity of some legally sold alcoholic beverages. It is known that many war veterans consume alcohol. During the anti-alcohol campaign (1985-1989) they were forced to stand hours-long queues at retail outlets and/or to drink surrogates. After the failure of the campaign, the country was flooded by poor-quality beverages and surrogates sold in vodka bottles through legally operating shops and kiosks [1,3].

The Soviet period brought about an expansion of admission numbers to universities and medical educational institutions; however, with little regard for the quality of the preparation of students. Numerous new medical schools were founded. Medical faculties were separated from universities. The quality of teaching,

ISSN: 2332-4139

especially of theoretic disciplines, has deteriorated because of that. Certain invasive methods with questionable indications were introduced or advocated by "first generation" military surgeons [1]. One of the motives to overuse invasive procedures was personnel training, among others, with the objective of readiness for war. Note that military and medical ethics are not the same. The comparatively short life expectancy in Russia is a strategic advantage as it necessitates less healthcare investments and pensions.

Ethical and legal basis of medical practice and research has not been sufficiently known and observed in RF. The term "deontology" is often used for medical ethics. Textbooks and monographs on deontology explained the matter somewhat vaguely, with truisms and generalities but not much practical guidance. Today, the growing economy enables acquisition of modern equipment; and medical research is on the increase. Under these circumstances, the purpose of this review was to remind that, performing surgical or other invasive procedures, the risk-to-benefit ratio must be kept as low as possible. Insufficient coordination of medical studies and partial isolation from the international community can result in parallelism in research, unnecessary experimentation, and application of invasive procedures without sufficient indications. Considering shortcomings of medical practice, research and education, governmental directives and increase in funding are unlikely to be sufficient. Measures for improvement of the healthcare in Russia must include participation of authorized foreign advisors.

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