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Infliction of Bodily Harm in the Russian Healthcare

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Abstract

The main topic of this review is invasive procedures used in the Russian healthcare without sufficient indications. This topic is interconnected with paternalism, disregard for the principles of informed consent, professional autonomy and scientific polemics. In conditions of paternalism, misinformation of patients, persuasion and compulsory treatments are regarded to be permissible. In the healthcare, partly due to low wages, various kinds of unofficial payments have become widespread. In conditions of legitimacy and high ethical standards, market economy stimulates a sound competition of constructive ideas, innovations and treatment quality. When laws, regulations and ethics are disregarded, the competition turns towards discrediting the free healthcare, manipulation to paid services, harassment of non-paying patients. Public acceptance of corruption in the healthcare is acknowledged in the most recent publications, despite generally declining transparency. Military functionaries and their relatives will become more dominant thanks to the war in Ukraine and Russia. 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 and other institutions without adequate preparation and selection. Military and medical ethics are not the same. One of the motives to overuse invasive procedures is personnel training under the imperative of readiness for war. The low life expectancy in Russia is a strategic advantage: fewer pensions to be paid, less heathcare investments. Considering shortcomings of medical practice, research and education, governmental directives and increase in funding are unlikely to be a solution. Measures for improvement of the healthcare in Russia must include participation of authorized foreign advisors.

Keywords: Healthcare; Corruption; Paternalism; Professional Misconduct; Russian Federation

Introduction

The main topic of this review is invasive procedures used in Russian healthcare without sufficient indications. Recommendations are generally avoided here. This topic is interconnected with certain features of health services in the Russian Federation (RF), namely paternalism, authoritative management style, occasional disregard for the principles of informed consent, professional autonomy and scientific polemics. In conditions of paternalism, misinformation of patients, persuasion and compulsory treatments are regarded to be permissible [1-3].

In the healthcare, partly due to low wages, different kinds of unofficial payments became widespread [4-6]. For example, in case of a tooth extraction, some dentists at state polyclinics (where the treatment must be free of charge) offer a choice: "Do you want a paid or free injection?" The payment is unofficial i.e., under-the-counter. Anesthesia after the free injection is incomplete. The same approach has been noticed in anesthesiology [7]. According to the World Medical Association, access to adequate pain treatment is a human right. Formally, the obligatory insurance in Russia covers basic treatments; but some personnel at polyclinics accept under-the-counter payments. In conditions of legitimacy and high ethical standards, market economy stimulates a sound competition of constructive ideas, innovations and treatment quality. In conditions of disrespect for laws, regulations and ethics, the competition turns towards discrediting the free healthcare, manipulation towards paid services and harassment of non-paying patients. Especially some aged persons perceive such attitude as insulting and don't seek medical help even if they have symptoms or a chronic disease. Apparently, this is one of the reasons of the relatively short life expectancy in Russia. The public acceptance of corruption in the healthcare is acknowledged in recent publications [4, 5], despite the generally declining transparency.

Breast Cancer

According to the author's estimates after a practice of pathology abroad (repeatedly during 1990-2008), an average size of malignant tumors in surgical specimens was larger in Moscow

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university clinics than in hospitals of Western Europe, which reflects the timeliness of cancer diagnostics. Another difference: almost all mastectomy specimens abroad were without muscle. The worldwide tendency towards a more sparing breast cancer management was not followed in the former Soviet Union (SU) for decades, while the Halsted procedure with the removal of both Pectoralis muscles was a predominant method of Breast Cancer (BC) management. It was presented as the main treatment modality of BC in some textbooks and monographs published after the year 2000 [8-10]. The principle of informed consent was often disregarded. Patients with early cancers underwent mastectomies with resection of pectoral muscles. A surgery could be extended to a radical (Halsted) procedure if an intraoperative frozen section found an early BC [11]. The latter operation is known to be associated with complications.

Even more radical methods were recommended and applied [12]. Newly developed mastectomy modalities with the muscle resection have been patented e.g., [13]. Old age was not regarded as contraindication. In view of complications, some experts recommended the modified radical mastectomy of Patey with resection of only the smaller pectoral muscle for T1-2 laterally located BCs [14]. Others advocated the Halsted procedure. The Patey operation is also associated with adverse effects; nonetheless, it has been broadly used in RF in last decades. The article [15] discussed the "gradual abandonment of the Halsted operation". In papers dated 2015-2022, the Patey operation was still mentioned as a routine procedure [16-18]; but the preservation of both pectoral muscles was finally becoming a standard. Today, the recommendations are adjusted to international patterns. Another extreme is observed: mastectomy without removal of pectoral muscles is called "mutilation" allegedly causing "severe moral injury" [19]. Such statements are accompanied by images of patients after reconstructive surgery, where breasts look (almost) as if not operated. Apparently, the motive is economic one as the costs of plastic surgery are borne by patients. Of note, esthetic demands can be met in many cases by external prostheses.

Diabetes Mellitus

The surgical spleno-renal anastomosis with the shunting of pancreatic blood into the systemic circulation was introduced by Eduard Galperin and applied for the treatment of type 1 diabetes mellitus [20-22]. Alongside, Galperin wrote: "Diabetic patients generally tolerate surgery very poorly" [22]. The method was applied also in type 2 diabetes [23]. The supposed mechanism was "creating a more optimal interaction of subcutaneously injected insulin and glucagon produced in pancreas" [20]. Of note, in patients with liver cirrhosis the surgical portocaval shunting resulted in deterioration of oral glucose tolerance [24]. Diabetes mellitus was even regarded to be a contraindication for portocaval anastomosis operations [25]. The anti-diabetic efficiency of the shunting was reported to be moderate both in humans and in experiment on dogs, whereas a majority of the animals did not survive the diabetes induction by streptozotocin or pancreatic resection with a subsequent shunting surgery.

By 2011, the surgical treatment of diabetes described above was still in use while a high risk of shunt thrombosis was pointed out [26, 27]. During the operations, biopsies from the pancreas (~0.5 cm) and kidneys were taken for research often without sufficient clinical indications (Section 8 below). It is known that renal and pancreatic biopsies are associated with risks. Invasive procedures applied within the framework of the surgical treatment of diabetes included other invasive procedures e.g. renal and splenic venography and celiac arteriography [20].

Peptic Ulcers

The surgical treatment of gastro-duodenal ulcers in the former SU has been different from the international practice. According to the author's 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. In RF, primary gastric resection (2/3-4/5 of the stomach), antrectomy with vagotomy, or a simple suture have been applied in perforated ulcers [28-30]. Relapsing ulcers after gastric resections or suturing of perforated ulcers were treated by repeated resection. The limited availability of modern medical therapy was designated as social indication for the stomach resection [29, 31].

The hyper-radicalism in the gastric surgery originates from Sergei Iudin, who was a "passionate supporter of gastric resections in ulcer perforations" [32]. According to his doctrine, the pylorus and lesser curvature must be resected at an ulcer surgery [33]. During the World War II, Iudin was one of leading surgeons of the Soviet army. He was notorious for radical operations: wide resections rather than drainage [32]. Former health minister Boris Petrovsky wrote that Iudin's radicalism in military surgery, followed by other surgeons, led to hemorrhages, extensive defects of osseous and soft tissues [34, 35]. Iudin's articles recommending stomach resection in ulcer patients have been reprinted with approving editorial comments [33]. References to Iudin continue, mentioning the fact that he performed primary resections in 75% of perforated gastroduodenal ulcers [36]. Gastric resections for ulcer perforation have been advocated by many experts in RF [29, 31, 36, 37]. It was stated in some articles recommending resections that medical therapy doesn't achieve a complete recovery, so that gastrectomy should be performed early to avoid complications. The term "complete recovery" is hardly applicable to the condition after gastrectomy. Anyway, this strategy was in disagreement with that applied in other countries.

The attitude delineated above is reappearing nowadays, notably, in publications from military-medical institutions [38]. Obviously, the military needs trained surgeons. In recent publications, gastrectomy (resection) has been designated as the most frequent, main or singular surgical treatment of gastric ulcers [28, 39, 40], applicable for any ulcer location [38]. As before, appeals to "radicalism" can be heard, advantages of early surgery for uncomplicated ulcers being emphasized [28, 38].

Bronchial Asthma and Respiratory Diseases

Another method to be commented is thoracic surgery with the denervation of lungs as a treatment of bronchial asthma [41, 42]. Among others, the "skeletonization" of pulmonary roots with transection of nerves, auto-transplantation of lungs (complete removal with immediate re-implantation) [43] or cross-section of trachea with subsequent suturing [44] were applied. The theoretical ground was the assumption that denervation "precludes abnormal nervous impulsation" [41]. Such argumentation was usual at that time, when the so-called ideas of nervism, based on the concept of trophic function of the nervous system by Ivan Pavlov, were propagated. Exaggerated histological descriptions of "dystrophy" in the autonomic nervous system were presented as a theoretic basis of the denervation [41]. The surgical treatment of asthma was

recommended by the Health Ministry whereas thoracotomy with lung denervation was designated as "the most accepted surgical treatment" [45]. The skeletonization was advocated both for steroid-dependent and infectious-allergic asthma varieties [45]. Repeated bronchoscopies were applied post-surgery because of the bronchial drainage impairment [43]. The pulmonary denervation and lung resection were recommended also for asthma cases when drug and inhalation therapy had been efficient. It was suggested that non-invasive treatment prior to the operation must be limited in time [45].

Denervation was sometimes performed simultaneously with lung resection, lobectomy or bilobectomy. In this connection, a quote from the recommendations of the Health Ministry deserves attention: "The widespread idea 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 conservative 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" [45]. Such instructions could lead to resection of largely unchanged pulmonary tissues, which was noticed by pathologists.

As mentioned above, the denervation surgery was sometimes combined with removal of pulmonary segments or lobes regarded to be pathologically altered [45]. Lung resections in asthma were used also without denervation, even in the cases when inhalation or drug therapy was efficient. Among indications for the surgical treatment were focal lesions: chronic pneumonia, bronchiectasis and bronchitis deformans [46]. Sokolov *et al*., stated that ≤10% of their asthma patients underwent resections [47]. The surgeries were performed also in patients with bilateral inflammatory or fibrotic lesions, both in exacerbations and in remissions, supposed to be indicated for a radical treatment of asthma. This concept was advocated by Fedor Uglov [46, 48], who claimed a "resection of infected foci" to be the aim of asthma management. The therapy was based on the belief that "in 98% of cases, the cause of asthma is focal chronic pneumonia" [46]. The 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. Asthma patients were transferred from internistic departments for the surgical treatment. After a course of therapeutic bronchoscopies (see Section 9), Uglov and co-workers performed resections of pulmonary lobes or segments regarded by them to be pathologically changed [46, 48].

Resections were applied to children with recurrent bronchitis and/or pneumonia; while efficiency of pneumonectomy was stressed, also in cases with bilateral involvement [49]. The recommendation for progressive chronic pneumonia was "lobectomy for segmentary lesions and pneumonectomy in all other patients" [50]. Reportedly, "dysontogenetic" lung diseases in children were a more frequent indication for radical surgery than acquired conditions; whereas lobe- and pneumonectomies were predominantly applied [51]. One of the leading experts in pulmonary pathology Irina Esipova and co-workers found malformations in 66% and bronchial diverticulosis in 64% of resected specimens from children operated for relapsing pneumonia or bronchitis deformans [52]. The same authors reported that, contrary to preceding publications, the lesions were not diffuse but local, thus justifying resections. Contemporary international literature was referenced scarcely in suchlike papers. Furthermore, Esipova claimed that misdiagnosis of malformations as chronic bronchitis led to undue postponements of surgery [52]. In accordance with this concept, pathologists described in surgical specimens' inflammation, fibrosis, dystrophy and malformations without specifying extent and severity [52, 53], whereas descriptions were at variance with the international literature [54], histological images being poor quality [2]. Undoubtedly, in some cases the surgery was indicated; but there has been an overtreatment tendency. It was rightly noticed that some histological phenomena described as malformations are common in postnatal lungs normally or after resolved pneumonia [55]. It was also noticed that diagnostics of lung malformations is difficult; the percentage of wrong diagnoses amounting to 65-75%. The patients were operated nonetheless based on the assumption that inflammatory complications are inevitable [56].

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 (Gb) were routinely operated on, while it was believed by some staff that the treatment was generally useless, just forcing 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 1966 Moscow Conferences of Neurosurgeons. Advanced age was not regarded to be an obstacle to the radicalism. Later on, microsurgery, intra-operative imaging and other modern methods lead to a reduction in the surgical morbidity. However, despite extensive research, prognosis has not changed significantly in the past decade. Arguments against resection are based on the invasiveness of Gb, which often cannot be totally removed. Maximum resection using microsurgical techniques is considered the standard of care, although the role of surgery has been difficult to define in controlled clinical trials [57, 58].

Without surgery, some patients receiving symptomatic palliative therapy could use the remaining time to complete their tasks. The palliative care increases the number of patients who survive more than 2 years approximately 3-fold compared with those declining the treatment in whole or in part [59]. Existing methods of Gb management are not questioned here. It is important that patients (or caregivers if the patient's capacity is impaired) must be objectively informed about potential benefits and adverse effects of different treatments. Signed informed consent is mandatory for all surgical candidates. Tacit consent must not be supposed, in particular, regarding end-of-life decisions [60]. All the above is of particular importance for the elderly. For aged patients with newly diagnosed Gb, current recommendations include surgery; however, some studies indicated that in patients aged 65 years and older, median overall survival is only modestly improved or that there is no improvement with resection compared to biopsy [58, 61].

Cauterization of Ectocervix

Electro- and thermocoagulation of cervical ectopy, regardless of the presence of epithelial dysplasia, has been routinely applied in RF. It should be commented that cervical ectopy or ectropion is called pseudo-erosion (colloquially erosion) in RF, while the term ectropion is mainly used for the cervix eversion after delivery. The ectopy per se was regarded to be precancerous or predisposing to cancer. Cylindrical endocervical-type epithelium and mucous glands within the ectopy were designated as "pathological tissue" that must be removed. It was also speculated that cervical pseudo-erosions

contribute to infertility and complications of pregnancy. Erosions were found at mass prophylactic checkups and treated by electro- or thermocautery. It was recommended to start the treatment of pseudo-erosions possibly early while large lesions were to be treated by "diathermoconization" using an electrocautery electrode; references are in the preceding article [62]. It should be noted that according to the international literature, the mucin-secreting columnar epithelium of the endocervix is present on the cervical portio, considered to be normal [63].

At the same time, Pap smears have been performed infrequently and not up to the quality standards, cervical cancer being diagnosed relatively late [64]. Ablative methods are advertised and recommended by some contemporary Russian-language literature. For example, relapsing endocervical ectopy without epithelial dysplasia has been presented as an indication for cryotherapy although this method impedes histological examination [65]. Other experts recommend laser, cryo- or electrocoagulation for acquired endocervical ectopy [66]. Some medical practices possess only one device for ablative therapy [65] and use it occasionally with questionable indications.

Renal Biopsy

Renal Biopsy (RB) is a valuable diagnostic tool. In RF, RBs were taken for research from patients with Glomerulonephritis (Gn), pyelonephritis, amyloidosis, renovascular hypertension (from both kidneys in some studies), other hypertension, alcoholism and diabetes mellitus, from children with urinary tract anomalies including those combined with hydronephrosis or pyelonephritis. More references are in the preceding article [67].

Pyelonephritis

Eexcisional RBs were collected at kidney-preserving operations such as lithotomy from patients with chronic or acute (including purulent) pyelonephritis. In the international literature, pyelonephritis is not listed among indications for RB; while acute inflammation, infection and hydronephrosis are generally considered to be contraindications. In particular, wedge biopsy from the kidney in acute pyelonephritis is associated with a risk of abscess formation. In an earlier study of acute and chronic pyelonephritis, a core biopsy from renal medulla and a wedge from the cortex were taken concomitantly. In the studies from the same institution, RBs were collected from patients with chronic pyelonephritis and hydronephrosis, while conclusions were based on linear correlations between ultrastructural morphometric and clinical indices [68]. However, statistical significance of the correlation coefficients in this and some similar studies was overstated [68, 69]. In a later study, "cytomembranes of the interstitial tissue of renal medullary layer" were studied in core RBs collected during lithotomy surgeries from patients with urolithiasis and secondary pyelonephritis [70]. The presence of the "medullary layer" in the specimens indicates that the biopsy was quite deep with a risk of calyx perforation. Fine-needle RB in acute pyelonephritis was performed and recommended as well [71].

Alcohol Use Disorder

Among patients with supposed alcohol-related disorders, biopsies were taken from kidneys, pancreas, liver, lung, salivary glands, stomach and skin, repeatedly in some cases [72-74]. Intraoperative lung biopsies were taken at surgeries for suppurative lung diseases [72]. Some RBs were collected according to clinical indications; but in many cases specimens from different organs were taken for research of questionable reliability. The attitude to patients with alcohol use disorders in RF has sometimes been less responsible with lower procedural quality assurance. For example, it was concluded on the basis of a series of RB studies that a generalized cytoskeleton abnormality with accumulation of filaments of intermediate type in macrophages, epithelial and other cells is typical for the damage by ethanol or the "alcoholic disease" [72, 74]. It is known that Mallory bodies, seen in alcoholic hepatitis and some other liver conditions, contain filaments of intermediate type; however, generalizations as per [72, 74] have never been confirmed by other researchers. In any case, the cytoskeleton can be studied in experiments or post mortem. Another example: RBs were collected from patients with chronic alcoholism and nephritic symptoms, whereas "intracapillary proliferative glomerulonephritis" was diagnosed in all cases. In a later study by the same researchers, the histopathological findings in 40 from 43 patients with alcoholism and nephritic symptoms were morphologically classified as mesangiocapillary Gn; while in 29 from 31 patients with the same symptoms without alcoholism "fibroplastic" Gn was diagnosed [75, 76]. The striking difference between the two groups is indicative of data trimming. Other invasive procedures (celiacography, endoscopic cholangiopancreatography etc.) were applied in alcoholics without clear indications [73].

Glomerulonephritis (Gn)

In the Russian-language literature RB has been generally regarded to be indicated in suspected Gn. In the internationally used handbooks, RB in isolated proteinuria and/or microhematuria without abnormal urine sediment or signs of progressive renal disease is generally regarded to be not indicated. Indications for RB are sometimes formulated more liberally; but an obvious prerequisite must be a high quality of morphological examination. In RF, RBs were sometimes collected from patients with "inactive nephritic" or latent clinical forms of supposed Gn i.e., in cases with isolated proteinuria and/or hematuria. At the same time, the classification of Gn has been different from that used internationally, which interfered with the implementation of guidelines from the foreign literature [67].

Comparisons of percentages of glomerular diseases, diagnosed by RB in Moscow and Rostock [77, 78], are suggestive of regular overdiagnosis of Gn in the former. The paraffin slides used for the diagnostics were relatively thick, the thickness being uneven. Occasionally overstained thick sections can mimic a glomerular capillary wall thickening and mesangial widening. This is apparently the reason why Gn was diagnosed in Moscow more frequently than in Rostock [67]. The diagnosis of Mesangioproliferative Gn (MG) was used broadly, encompassing 49-60.8% of all Gn cases diagnosed by RB [79, 80]. Epoxy resin sections and silver impregnation were not used for the diagnostics, while electron microscopy was applied only occasionally. Using these methods, the collecting box of MG could have been partly sorted out, excluding from it some cases morphologically bordering on the norm i.e., isolated proteinuria and/or hematuria without renal or systemic disease, not requiring immunosuppressive therapy. As a result of the histological overdiagnosis of Gn, some patients were treated by corticosteroids and cytotoxic drugs such as azathioprin, cyclophosphamide or chlorambucil without indications.

Congenital Conditions

The questionable concept of hypoplastic renal dysplasia was developed on the basis of pediatric RBs, described as follows: "Racemosely arranged glomeruli with single capillary loops" [81], which has no analogues in the international literature. The terms

"renal hypoplasia" and "dysplasia" are used in the literature with different meanings. In the author's opinion, the descriptions were at least in part based on tangential sections of glomeruli, which is evident looking at the illustrations in [82], partly reproduced in the book [2]. It was recommended to the authors to verify their concept, counting glomeruli "with singular capillary loops" in autopsy or nephrectomy specimens, but it has not been done. For example, hypoplastic dysplasia was diagnosed by electron microscopy in 8 from 34 randomly selected patients aged 9-54 years with nephrotic syndrome and histologically minimal glomerular changes [83]. At the same time, there was not a single diagnosed case of Alport syndrome, having some morphological features in common with the "hypoplastic dysplasia" as per [82], among 4440 overviewed RBs [80]. Alport syndrome was diagnosed in ~1% of RBs in Rostock [77]. The concept of hypoplastic dysplasia was discussed with clinicians collecting biopsies, which could have interfered with the diagnosis of Alport syndrome and genetic consultation of patients.

Later on, the same researchers and their followers applied the term hypoplastic dysplasia to the glomerular changes in congenital hydronephrosis and other renal abnormalities in children, interpreting them as congenital nephropathy affecting a major part of glomeruli [84]. A regular combination of two prima facie unrelated conditions: an inborn glomerulopathy, affecting a major part of glomeruli, and hydronephrosis related to an abnormality of the ureteropelvic junction, seems to be improbable. Glomerular changes in hydronephrosis caused by the urine retention (collapse of the glomerular tuft with the widening of the urinary space) are different from those described within the concept of hypoplastic dysplasia [84]. For the latter research, 167 intra-operative RBs from children with urogenital malformations, plus RBs for the control group from urological patients, were collected [85].

Renal and Pancreatic Biopsies in Diabetes Mellitus

The same research team collected pancreatic excision biopsies 5×5 mm at operations of "pancreatic blood shunting into the systemic blood flow in insulin-dependent diabetics" (discussed above in the Section 3). From the same patients, core RBs were taken [86]. In the studies of RBs from diabetics, Gn and mesangiolysis were designated as consecutive stages of diabetic glomerulosclerosis. Ultrastructural descriptions included frequent mesangial interposition with displacement of mesangial cells to the periphery of glomerular capillary loops and formation of double-contour basement membranes, which is at variance with usual descriptions. It should be commented that in diabetes mellitus, RB is generally indicated for patients under suspicion of a renal disease other than diabetic nephropathy. It is important to diagnose a non-diabetic renal condition, in particular, membranoproliferative Gn, where the immunosuppressive therapy should be considered. The interpretation of morphological picture of Gn as a characteristic phenomenon or a stage of diabetic nephropathy is misleading.

Renovascular Hypertension

Unnecessary risk for patients was caused by renal biopsies taken for scientific purposes from patients with renovascular hypertension from both kidneys in some cases [68]. The indirect harm has been considerable: students and young researchers can learn that ethically suboptimal procedures can be applied in medical research. In the late 1980s, I searched the archive of ultrastructural images and found approximately 20-30 photographs of juxtaglomerular cells with secretory granules showing similar structure, probably originating from a limited number of patients and experimental animals. These photographs were used as illustrations in the dissertation [68], numerous journal articles and books. There was not enough material for a reliable morphometric and statistical assessment. Human renomedullary interstitial cells, bona fide suitable for evaluation of prostaglandin synthesis, were absent in the archive. There were only a few doubtful ultrastructural images, repeatedly used as illustrations in different publications. The phenomenon referred to as a "compensatory activation of nephrocytes of collecting tubules" as a proposed morphologic equivalent of the enhanced synthesis of prostaglandins or other antihypertensive factors [68], has never been satisfactorily illustrated. The data about "stereotype cyclic changes in the endocrine renal system" [87] in glomerulonephritis, pyelonephritis, and other renal conditions, and "calculated values of the vascular index for both kidneys" as criteria for choosing the method of surgery in vasorenal hypertension [88] have never been confirmed by other researchers.

Endoscopy

This section is an update and continuation of preceding reports, summarized in the book [2]. Special attention is given to Bronchoscopy (Bs) in bronchial asthma, used in spite of the prevailing opinion that it brings not much benefit. In the international literature, no particular role of Bs in the diagnosis and treatment of bronchial asthma is specified. An indication for Bs in asthma is a search for alternative causes of the symptoms while there are also other diagnostic tests. Lavage of bronchi may be indicated under certain circumstances. Clinical recommendations are avoided here. The newest Russian-language textbooks are based on the international literature available on the Internet. However, earlier manuals contained recommendations partly at variance with internationally accepted ones. In asthmatics, the purpose of Bs was claimed to be characterization of inflammatory lesions. The same authors noticed that Bs in asthma provokes bronchospasm [89]. Asthma, tuberculosis (also if suspected), bronchitis, protracted pulmonary and bronchial conditions were presented as blanket indications for Bs in adults and children [89- 91].

Extension of indications for Bs is associated with the names of L.T. Ioffe and F.G. Uglov (mentioned in the Section 5). Ioffe wrote in an instructive edition that "Bs must be performed in all pulmonary diseases" [92]. Uglov reported on 2477 therapeutic and 5000 diagnostic Bs performed in his institution in patents aged 1.5-78 years predominantly with conditions such as bronchitis, pneumonia and asthma [46]. The conclusion was that Bs is important for the diagnosis of almost all pulmonary diseases and can be recommended also at an early stage. "After a prolonged course of therapeutic Bs", Uglov applied resections of pulmonary segments or lobes regarded to be irreversibly changed (bronchitis deformans, bronchiectasis etc.) as a treatment method of asthma [46]. At the same time, difficulties with the local anaesthesia were pointed out, which necessitated general anaesthesia in many cases [93]. Considerable discomfort was probably associated with those "technical difficulties". Many thousands of Bs in children and adults with asthma, bronchitis and pneumonia were performed in hospitals and outpatient facilities. Repeated Bs in children under local anesthesia caused stress, damage of teeth and airways [94].

Bs was applied and recommended for children and adults with bronchial asthma both in remissions and exacerbations, in mild and severe cases, as well as in "pre-asthma" i.e., bronchitis with

bronchospasm and allergy. Bs was discussed as a method of early diagnosis of all forms of bronchial asthma; it was used repeatedly for a dynamic observation. Efficiency of therapeutic Bs in moderate bronchitis was pointed out by Uglov [46], who applied 5-6 bronchoscopies per treatment course. In particular, the "atrophic type" of chronic bronchitis was regarded as an indication for Bs [95]. Laser therapy was applied in children and adults through the bronchoscope in asthma, bronchitis and chronic pneumonia, in atrophic bronchitis or "primary atrophic bronchopathy" including that supposedly caused by ionizing radiation, while histological specimens were thick and difficult to evaluate. Similarly to other forms of electromagnetic radiation, laser at lower power densities causes warming and at higher densities damages tissues. Atrophy may advance due to additional damage. Furthermore, Bs was used as a screening method in agricultural workers contacting with dust: both in healthy ones and in those with allergic rhinitis or chronic bronchitis, acute and chronic pneumonia including children; in young patients supposed to have community-acquired pneumonia e.g. 1478 procedures in 977 conscripts 19,5±0,1 year old [96]. More references are in the book [2]. The overtuse of Bs in tuberculosis is discussed in Section 10 below.

The principle of informed consent was not sufficiently known and observed, being mentioned only in some recent Bs studies. Paternalistic attitude to patients prevailed. Admittedly, endoscopy is less frequently used for research today and informed consent is often mentioned. In the study [97], Bs was performed in children 5-15 years old with moderate to severe asthma, while informed consent was obtained from parents. Note that the principle of informed consent (or assent) is applicable also to adolescents and children. When a minor is able to give assent to decisions about participation in a research, investigators must obtain it in addition to the consent by parents or legally authorized representatives. Invasive procedures including endoscopy and biopsy used for research without sufficient clinical indications fall under the jurisdiction of the Declaration of Helsinki. The consent for participation in studies implies that the subjects fully understand their role and risks, being able to withdraw any time without disadvantage.

Tuberculosis

After the successful development of medical treatment of Tuberculosis (Tb), the use of surgery has decreased in many countries. The spread of drug-resistant strains of M. tuberculosis has reduced success rates of treatments with drug therapy alone and increased the number of patients who require surgery [98]. Priority of Russia in this field was claimed [99, 100]. The surgery has been performed not only in specialized centers but also in peripheral hospitals. This development was associated with the name of M.I. Perelman, who criticized the Directly Observed Treatment, Short Course (DOTS) Program by the World Health Organization and endorsed the surgical treatment [101].

Lung resections were recommended for patients with inactive post-tuberculous fibrosis including oligosymptomatic cases. On the other hand, operations were performed in florid disseminated disease. In some provinces of the Urals, Siberia and Volga regions, 25-40% of patients with destructive Tb were operated [102]. At the time of initial diagnosis, surgery is considered to be indicated in 15-20% of patients [103, 104]. As per other papers, indications for surgery were found in 20-40% of patients at the time of diagnosis and/or in those with active Tb [105, 106]. In the international literature the figures are generally lower [107]. It was stated in the seminal article that a half of lung surgeries in Russia had been performed for Tb [100].

The recommendation to remove tuberculomas stems from L.K. Bogush [108]. Non-progressive tuberculoma has been regarded as indication for surgery in adults and children [109-111]. Tuberculomas >1 cm was often resected [112]. Another indication in children and adolescents is the "absence of the positive dynamics" after 6 months of medical therapy or earlier in case of drug resistance [110]. The drug resistance per se and "irreversible lesions" were declared to be indications for surgery. Note that tuberculoma is a stable lesion; and progression should not be generally expected. Now as before, tuberculoma is among the forms of the disease that are most frequently operated on [103]. It was the most frequent indication for lung surgery in pulmonary Tb at the leading institution - the I.M. Sechenov Medical Academy (MMA, later renamed University): 44.2% in general and 40.7% in children [100, 113]. At some phthisiological hospitals this percentage was 50-80% [114]. Bilateral resections were performed in various forms of Tb including tuberculomas on both sides. Research from MMA reported 771 lung operations, including 168 pneumonectomies, 181 lobectomies, 180 other resections, performed in 700 Tb patients, up to 4 operations per patient. Postoperative complications were recorded in 100 (12.9%) and lethal outcomes in 12 (1.5%) of the cases [115]. Another example from MMA: among 60 operated Tb patients, the complication rate was 37%, mortality - 5%; 18.3% of the patients were released from the hospital with persisting complications [116]. Of note, there is a tendency to underestimate complications, especially those developing at a later date.

Out of 1,311 Tb cases operated at the Phthisiopulmonology Institute in St. Petersburg, 241 had recurrences and 203 were re-operated [117]. Postoperative recurrences were regarded as indications for repeated surgeries up to a concluding pneumonectomy and resections of the remaining sole lung [118]. Bilateral lobectomies or pneumonectomy plus contralateral "sparing" resection were regarded to be indicated for patients with a Tb lesion on one side and non-specific inflammatory or fibrotic lesions in the contralateral lung. Bilateral resections and bilobectomies were performed in various lesions including tuberculomas. According to a recent monograph, among 420 patients operated for tuberculoma, bilateral operations were performed in 130 (31%) [119]. Resections were regarded to be applicable also in cases with severe respiratory insufficiency. More references are in [107].

Resections in Tb were performed by some surgeons without preceding attempt of medical treatment or within one month after the diagnosis, when medical therapy could have been effective. One of the arguments in favor of the early surgery was the non-compliance increasing with time [112], as the patient's collected knowledge and advice. Lung operations were performed and recommended also for aged patients with comorbidities. Sokolov found indications for surgery in 210 from 289 (72.6%) Tb patients 50-73 years old and operated 180 (62.2%) of them, 144 operations being lung resections. Among the latter 144 patients, 93 (66.4%) had cavitating lesions and 43 (30.8%) tuberculoma [120]. According to another report, tuberculoma was the most common indication, and lobectomy - the most frequent operation in elderly Tb patients, whereas potential contagiosity was among arguments in favor of the surgical treatment [121]. Statements of this kind can be found also in recent papers e.g.: "Surgery in patients with tuberculomas is recommended to reduce

their infectiousness" [122]. According to Giller and co-workers, a reduction of Tb incidence and mortality can be achieved only through a "radical sanation" of contagious patients including those without destructive pulmonary lesions [123], the surgery being important as it impedes infection of other people [100]. "Reduction of M. tuberculosis circulation in the society" has been declared one of the goals of the surgical treatment [103]. Of note, tuberculoma is usually not contagious. Broadened indications for surgery are recommended for patients with comorbidity of Tbc and alcoholism because of their allegedly "high epidemiological dangerousness" [111]. One more citation: "Active surgical sanitation of infectiously dangerous patients with pulmonary Tb contributes to the rapid improvement of epidemiological statistics" [124]. No mentions of informed consent have been found in this connection. The above quotes illustrate serious ethical deficiency. Evidently, supposed contagiosity does not justify a thoracic surgery without evidence-based clinical indications.

Compulsory Hospitalisation and Treatment

According to the governmental Regulation No. 378 of June 16, 2006, patients with contagious Tb are not permitted to reside in one apartment with other people. As per the Federal Law 77-FZ "Prevention of tuberculosis spread" of June 18, 2001 (amended 2013), "patients with contagious Tb, repeatedly violating the anti-epidemic regime, and those evading examinations or (emphasis added) therapy, are hospitalized for obligatory examination and treatment." It is specified by the same law that the principle of informed consent is not applicable under these circumstances, and that the patients must undergo prescribed examination and therapy. The non-observance of this law may lead to a criminal prosecution. A survey found more than 6000 legal proceedings; whereas 3163 Tb patients were compulsorily hospitalized [125]. In another series, 463 court cases resulted in 421 decisions to hospitalize Tb patients [126]. The police are supposed to help at hospitalizations and search of evading individuals. It was reported that about 60% patients of a "phthisio-narcological" institution for compulsory treatment escaped; ≥50% of them were brought back by the police [127]. The duration of stay in such institutions was a year or longer [128]. The compulsory treatment has been endorsed by laws and regulations. There is a legal mechanism enabling compulsory treatment of prison inmates diagnosed with open form of Tb (Article 18 of the Criminal Executive Code of RF) and/or alcohol use disorders [129]. The implementation of compulsory examinations and treatments is increasingly efficient these days. Reportedly, 100% of M. tuberculosis excretors in the Moscow region had been hospitalized since 2019 [130]. Compulsory treatments are generally at variance with the international practice and regulations. According to The World Medical Association, neither the statutory exceptions to the principle of informed consent nor the conditions of required care allow legally binding measures against patients refusing a treatment or hospitalization [131] let alone thoracic surgery. The presence of Tb or alcohol use disorder does not interfere with a person's right to refuse the treatment. The consent for invasive procedures is of particular importance in conditions where an overtreatment may occur.

Tuberculosis and alcoholism

According to official instructions and textbooks, indications for surgery have been broader in alcohol-dependent than in other patients with tuberculosis [111]. In case of alcoholism, the surgical treatment was recommended to be implemented earlier, after a shorter period of medical therapy. Perelman insisted on early surgery in patients with alcohol dependence, and operated them also in the absence of demonstrable M. Tuberculosis. At the same time, he noticed that alcoholics have more frequent post-surgery complications [132]. Bronchoscopy was applied in cases with bronchitis [128], the latter being frequent among Russian alcoholics due to cigarette smoking and the risk to sleep down in a cold place. Along with other complications, vocal cord injuries were observed after repeated bronchoscopies sometimes performed in conditions of insufficient procedural quality. It was noticed that vomiting triggered by apomorphine as aversive therapy of alcohol dependence provoked hemoptysis and pneumothorax in patients with tuberculosis [128]. Certain anti-tuberculosis drugs (cycloserine, rifampicin and other) exacerbated liver and neural derangements in alcoholism. Nevertheless, rifampicin was officially recommended for patients with comorbidity of tuberculosis and alcohol use disorder [133]. The overtreatment of alcoholics is discussed in detail in the book [134].

Discussion

In the period 1982-1990 the author was a trainee, thereafter pathologist and lecturer at the MMA, attended meetings of Moscow Society of Pathology and saw many presentations. Along with reports having value of review or compilation, there were numerous provably fabricated ones [135]. Some unreliable publications originated from renowned institutions. There was also business around it: many postgraduates came to Moscow from other cities and former Soviet Republics to be awarded a scientific degree; they paid for preparation of specimens, illustrations, and sometimes for a review of literature. They also presented pricey gifts to their scientific consultants.

Many superior positions are now as before occupied by former functionaries, their relatives and protégées, some of them embroiled in scientific misconduct. They often attend international conferences representing our country. Mikhail Paltsev officiated in 1990-2009 as Chancellor of the MMA. Plagiarism and manipulation of statistics have been demonstrated in his publications, illustrated in the book [135]. Before that, he had been a Head of the Communist Party Committee of the same institution. His successor Petr Glybochko applied incorrect citation in the dissertation [136]; documentary evidence thereof has been published [135]. The business with forged dissertations is going on [7]. Although there has been an influx of money into medical research, its distribution is influenced by corruption and power play [137].

Another example of misconduct: Since the Soviet time, autopsy has remained obligatory for all patients dying in hospitals. The autopsy helpers (so-called sanitars) are employed part-time at the funeral service. As a result, they are not always available during autopsies and the grossing (cutting-up of surgical specimens). The request of a pathologist (for example, to bring formalin) can be met with the reply that autopsy assistants have no time for it because they have to dress or shave a corpse. Relatively high incomes of the autopsy assistants and their cooperation with the hospital administration in the funeral business contribute to their low level of discipline. At the same time, cleanness and hygiene in the rooms for the autopsy and gross dissection is often far from perfect. Different kinds of ill-discipline could be observed in departments of pathology: washing and repair of private cars during working hours, visits of unauthorized persons, noise in the rooms where pathologists perform diagnostic examinations. Transcriptionists sometimes go home before the end of their shift, leaving unwritten biopsy reports. Under conditions of authoritative management style, some professionals accept working without making an effort to set things in order, keeping the interest of

patients in mind [138].

In regard to plagiarism from foreign sources, it should not be left without comment, when the celebrated editions such as the Histopathology of the Skin by Walter F. Lever and Gundula Schaumburg-Lever, the classical Robbins' Pathologic Basis of Disease or Handbuch der Speziellen Pathologischen Anatomie und Histologie by Henke and Lubarsch, are rewritten without proper references, mistranslated, and distorted by additions. We can hardly imagine what immense work and immaculate integrity stands behind these great and truthful books. These works and their authors deserve to be treated with respect by exact quotations and references. Todays and tomorrow's plagiarists should be aware that they may be identified and exposed. Otherwise, the misconduct would spread over the globe and persist endlessly. Numerous examples of plagiarism from foreign sources are illustrated in the book [135].

Furthermore, medicinal alcohol has been regularly purloined from medical institutions. Many histological laboratories prepared specimens, using employer's consumables and equipment, against payment, for postgraduate students coming from different regions to acquire academic degrees. At the same time, diagnostic specimens have sometimes been of suboptimal quality. Corrupt interactions with pharmaceutical, construction and other enterprises have become widespread. The firms influence doctors' prescriptions through visits of representatives, advertisements in professional venues, bribes and gifts, sponsoring education and travel to conferences [139]. Certain administrators, having approved economically suboptimal acquisitions, travelled abroad with family members.

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 and other institutions without adequate preparation and selection. War veterans enjoy advantages in the healthcare and everyday life. However, there are misgivings that the veteran 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. 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 corruption and professional misconduct of different kind [135].

Weak property rights protection and unfinished reforms allowed Vladimir Putin to centralize power and economic control. Corruption is a known feature of oligarchic economies. Apart from the healthcare, environmental crimes have been caused by corruption and negligence. For example, Chernobyl accident was exploited to strangle the worldwide development of nuclear energy [140], thus supporting high prices for fossil fuels. At least, negligence and disregard for written instructions were among the causes of the accident [141, 142]. Reactor safety systems were disabled deliberately in order to carry out an experiment [143, 144], which might have been a pretext for covering sabotage. The number of control rods in the reactor was only half the minimum required for safe operation [144]. Escalation of conflicts contributes to the boosting of fossil oil and gas prices. By analogy with Chernobyl, the war damage and shutdown of the Zaporozhie nuclear power plant (the largest in Europe) have enhanced demands for fossil fuels. The weightiest argument against nuclear facilities is that they are potential war targets. Apparently, the maintenance of fossil fuel prices has been one of the motives to unleash and continue the war in Ukraine. Another example of corruption-related environmental damage has been illegal shipping of timber to China [145]. Travelling with the Trans-Siberian Railway, one sees not so much forest as in the past. Experiments with globalization have not produced democratic breakthroughs in China and Russia. Moreover, the Russian-style kleptocracy seems to be spreading on the map [146]. Should the power in Europe shift to the East as a result of the Ukraine war, it would come along with losses of some moral values, of integrity in medical research and practice.

Ethical and legal basis of medical practice 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. 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 a solution. Measures for improvement of the healthcare in Russia must include participation of authorized foreign advisors.

Conclusion

As far as we know, the Soviet and present rulers, the party and military nomenklatura [147], did not allow the use of invasive procedures without indications on themselves and their relatives. Functionaries' sons did not treat gonorrhoea by tamponade and bougienage of the urethra; alcoholics from their milieu have not been compulsorily treated by drip infusions days on end being infected with viral hepatitis, neither have they drunk technical ethanol sold in vodka bottles through legally operating shops. As for the medical personnel, it is unlikely that they applied dry cutting and poor-quality fillings to discoloured pits and fissures in their children [2], cauterized cervical ectopies (Section 7), or performed Halstead mastectomy on their family members (Section 2). This implies that there has been extensive deliberate infliction of bodily harm.

Some invasive methods with questionable indications were introduced or advocated by first generation military surgeons. 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. 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 RF is a strategic advantage as it necessitates less healthcare investments and pensions. Malignancies are diagnosed in Russia relatively late. Furthermore, among factors contributing to the use of invasive procedures with questionable indications have been the partial isolation from international scientific community, insufficient consideration of the principles of professional autonomy, informed consent and scientific polemics, resulting in lack of criticism and fair discussion.

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