

## On the History of Psychosurgery in Russia

B. L. Lichterman

Russian Medical Academy of Postgraduate Training, Chair of Pediatric Neurosurgery, Moscow, Russia

### Summary

The history of psychosurgery in Russia can be divided into 3 periods: The first period starts at the turn of the century under the initiative of Bekhterev. His pupil and one of the fathers of Russian neurosurgery Puusepp performed leucotomy-like cuttings of frontal association fibers in manic-depressive cases and psychic equivalents of epileptics as early as 1906–1910.

The second period includes the time from the late 1930ies till the late 1940ies. The classical leucotomy of Moniz and Lima, with some modifications, was used for treatment of schizophrenia and severe pain. In 1950 psychosurgery was prohibited by the special order of the Minister of Health of the USSR for ideological reasons. The third period starts in the early 1980ies with the acceptance of modern stereotactic techniques for treatment of intractable pain and obsessive-compulsive disorders.

*Keywords:* Psychosurgery; history; Russia.

The history of Russian psychosurgery can be divided into three periods. The initial period starts at the turn of our century. The famous Russian neurologist Prof. Vladimir Bekhterev intended to introduce surgical methods into neuropsychiatry (Fig. 1.). According to Bekhterev “surgery is conquering its rights also in the field of psychiatry, where any purposeful help for the patients is essentially valuable due to the loss of the human being’s personality caused by the disease”. Ludvig Puusepp – Bekhterev’s pupil and one of the first Russian neurosurgeons – became the head of the neurosurgical department, organized in 1909 in St. Petersburg (Fig. 2.). The review article by Bekhterev and Puusepp “Surgery in mental diseases” was published in the previous year<sup>4</sup>. There was vivid criticism of Bourkhardt for performing focal cerebral aspirations: “One can’t but admit the futility of the operations made and mention the marked damage caused by severe cerebral intervention. One can only be surprised the medical doctor’s performing such operations. In this case

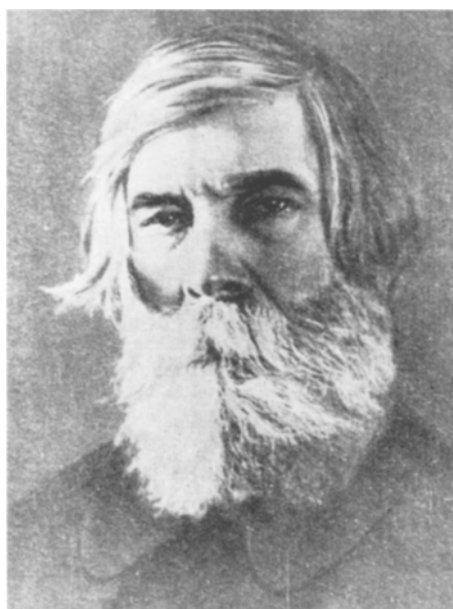


Fig. 1. Vladimir Bekhterev (1857–1927)

Broca and Moubzac were surely right to compare them to interventions made in the middle ages by Roland de Parme in order to give way to cerebral perspirations”. Another paper by Puusepp “Surgical intervention in mentally disabled from ethical and law standpoint” should also be mentioned<sup>11</sup>. It was stated there that “doctors should be given the right to operate when the patient’s relatives are against the operation but a consilium of at least 3 doctors determines that operation is necessary for saving the patient’s life. Such decision contradicts neither the law nor the ethics. From the ethical viewpoint I prefer the collegial decision of doctors-psychiatrists rather than the permission of pa-



Fig. 2. Ludvig Puusepp (1875–1942)



Fig. 3. Isaak Babtchin (1895–1989)

tient's relatives. I cannot understand why the collegium of relatives is thought to be more competent for the decision of the operation than the collegium of highly educated specialists”.

Ludvig Puusepp performed several operations (3 cases) resembling leucotomy in 1906–1910. He cut association fibers in the frontal lobes in the hope of reducing psychomotor agitation. For unknown reasons these results were only published 25 years later, after the classical work of Moniz and Lima<sup>6, 12</sup>.

The ideas of Moniz became known in Russia in the late 30ies<sup>19</sup>. Leucotomy was advocated by some Soviet psychiatrists – Prof. Shmaryan in Moscow, Prof. Goldenberg in Gorky and others. This operation was performed in the late 40ies in big clinical centers in Moscow, Leningrad and Gorky by leading Soviet neurosurgeons – I. Babtchin (Fig. 3), Ch. Garkavi, B. Egorov (Fig. 4). Isaak Babtchin from Leningrad reported about 125 leucotomies by the closed transorbital approach<sup>3</sup>. The former director of the Burdenko Neurosurgical Institute Boris Egorov preferred open leucotomy with his own modification<sup>7, 8</sup>. Most of the cases were schizophrenic patients. The indications for surgical intervention were chronicity and incurability of the disease and long-lasting affective tension.

There are several reports on the favourable effects (patients became more adequate and returned to reality) of leucotomy in Russian periodicals<sup>9, 10</sup>. It was a matter of discussion at the Third All-Union Congress



Fig. 4. Boris Egorov (1892–1972)

fo Neurologists and Psychiatrists<sup>17</sup>. The favourable effect of the operations was explained by “overlapping” schizophrenic symptoms by mild frontal lobe signs which results in normalization of affective disorders.

In the same year 1949 that Moniz was awarded the Nobel Prize, the so-called “Pavlovian” session on neurosciences was held. Psychosurgery was sharply criticised there as an anti-Pavlovian method, uncritically

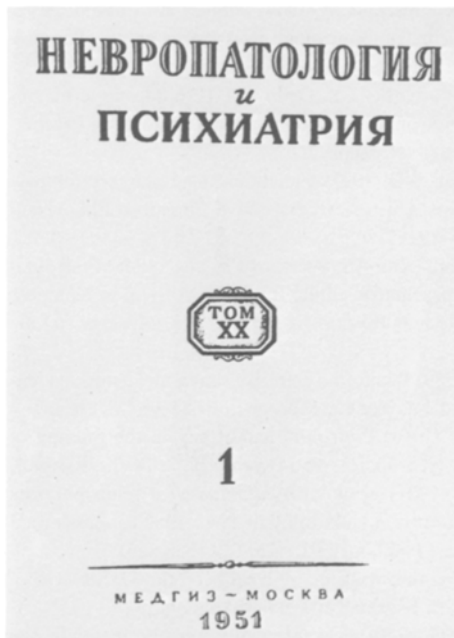


Fig. 5. The front cover of “Neuropathologia i Psychiatria” where Order N1003 of the Minister of Health of the USSR prohibiting psychosurgery was published

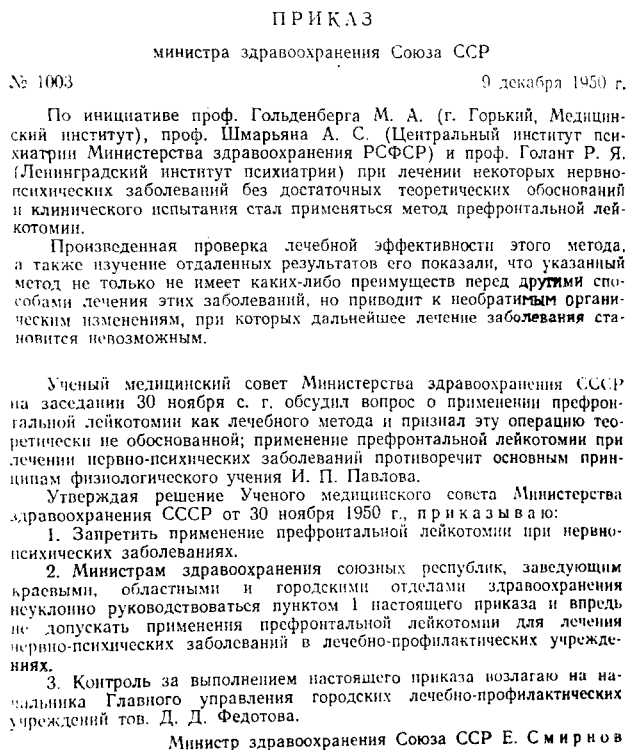


Fig. 6. Order N1003 as it appeared in the Soviet periodical

accepted from the West<sup>11</sup>. One can only guess what relation to psychosurgery Pavlov had. He died in 1936 and never wrote about this subject.

The end of the second period of Russian psychosurgery might be dated as December 9, 1950 when a special order of the Ministry of Health prohibiting psychosurgery was issued<sup>11</sup>. The text of this order deserves to be reproduced (Figs. 5, 6).

#### *Order of the Ministry of Health of the USSR*

N 1003

December 9, 1950

On the initiative of Prof. M. A. Goldenberg (Gorky Medical Institute), Prof. A. S. Schmaryan (Central Institute of Psychiatry) and Prof. R. Ya. Golant (Leningrad Institute of Psychiatry) the method of prefrontal leucotomy was started to be practiced without adequate theoretical reasons and clinical trials for the treatment of some neuropsychiatric disorders.

Examination of the therapeutic efficacy of this method and studying of long-term results showed that it has no advantages compared to other treatment modalities and leads to irreversible organic changes which makes impossible further treatment of the disease. The Scientific medical council of the Ministry of Health of the USSR discussed the question of therapeutic use of prefrontal leucotomy and acknowledged it to be theoretically unproven. The use of prefrontal leucotomy in the treatment of neuropsychiatric disorders contradicts the basic principles of Pavlov's physiological theory.

Asserting the decision of the Scientific Council of the Ministry of Health from November 30, 1950 I order:

1. The use of prefrontal leucotomy for treatment of neuropsychiatric disorders is prohibited.

2. Ministers of Health of Union Republics, heads of district and city health departments must steadily fulfil point 1 of this order and never permit treatment of neuropsychiatric disorders by prefrontal leucotomy.

3. The fulfilment of this order will be controlled by the Head of Urban Medical Departments Fedotov.

The Minister of Health of the USSR

E. Smirnov.

As the result of this order many psychiatrists were dismissed from their jobs. Most of them were jews and only jewish names are mentioned in the text of the order. This reflected a growing antisemitic tendency in the Soviet establishment in the late 40ies which was masked as “struggle against cosmopolitanism”. It was one of the first signs of the forthcoming “doctors affair” in 1953. According to one of the witness this order was provoked by a high ranking party official whose son underwent leucotomy against the will of his father<sup>2</sup>. The above mentioned ethical principle of Puusepp turned to have a negative impact on the development of Russian psychosurgery.

Psychosurgical interventions were prohibited for more than 30 years. In order to justify prohibition two papers on long-term results of leucotomy were published in the early 60ies<sup>1, 5</sup>. The absence of clinical improvement in all 41 cases of leucotomy was recorded<sup>1</sup>. The disproportion between relatively modest

quality of remissions and high adaptability of the patients as well as disappearance of psychomotor agitation was explained in the following way: “the effect is achieved by the price of defect”. Bondarev *et al.*<sup>5</sup> noted, that hallucinations and paranoid syndromes disappeared or markedly diminished after bilateral prefrontal leucotomy though hallucinations returned several years later.

Some interventions in pain and epilepsy surgery which might be characterized as psychosurgical were performed occasionally during that period. When it was mentioned in one of the dissertations in the early 70ies that thalamotomy reduces the emotional component of intractable pain it caused a big discussion in the scientific council of the Burdenko Neurosurgical Institute because such interventions contradicted the order of the Health Ministry<sup>15</sup>.

The third period of Russian psychosurgery started in 1982 when the paper by Romodanov *et al.* appeared<sup>14</sup>. It reviewed several foreign reports of stereotactic interventions in some psychiatric disorders in order to justify the term “psychosurgery” and start to perform it again. In recent years the investigators from the Institute of Experimental Medicine in St. Petersburg began to perform stereotactic cingulotomy in obsessive-compulsive disorders<sup>16, 18</sup>. This institution has a wide experience with implanted electrodes and is headed by Prof. Natalya Bekhtereva – the granddaughter of Vladimir Bekhterev. One of the founders of Russian neurosurgery, Prof. N. N. Burdenko, called psychosurgery “the song of the future”<sup>9</sup>. Nowadays this song starts to sound again in Russia.

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