

appeared after 48–72 hours of surgery, one patient felt the paresthesia and dysfunction of bladder and bowel after 5–6 hours from surgery and epidural anesthesia. In all cases MRI were prepared, no any mechanical damaging of nerve roots or spinal cord on surgery level were founded. This all patients fell pain during operation on level Th 5 – Th 8 and had episodic loss of consciousness. There was no episode of arterial pressure hypo or hypertension during surgery.

The follow up of this patients during two – three months shows poor recovery of neurological symptoms.

#### Conclusion

The epidural anesthesia with only sensor block during endoscopic lumbar disc surgery is safe and effective which

allows patient and surgeon to complete the surgery with high comfort. There is a little rate of complications but unfortunately this complications are very dangerous and treatment of neurological complications like cauda equine syndrome is not effective. For prevention of this complications we suggest to do epidural catheterization especially moving the tip epidural catheter as low as possible at the level of L4-L5-S1. The anesthetic drug concentration must be minimized as possible. Before operation intravenous infusion of 1,0–1,5 l solution and 16mg of Dexamethasone must be done. In cases of feeling pain during operation on upper thoracic spine and having episodic loss of consciousness the risk of cauda equina syndrome is high.

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## Specific features of the childbirth process and postpartum period in Women with epilepsy

**Abstract:** This paper assessed impact of epilepsy on the labor course and postpartum period; it was discovered that complicated labor course and postpartum period exceeds several times than those in the population. However,

with adequate preconception preparation of women with epilepsy, it is possible to achieve significant improvement in the pregnancy outcomes for both mother and fetus.

**Keywords:** epilepsy, pregnancy, childbirth, the postpartum period.

Outcomes of pregnancy and childbirth constitute a set of quality indicators that reflect mainly the level of perinatal care provided to pregnant women. At the same time, perinatal outcomes are closely connected with the health of mother, whose level is determined by degree of adaptation of her organism to her pregnancy and severity of complications joined. Perinatal outcomes in women with epilepsy, of course, depend on characteristics of the disease during gestation process as a result of effect of changes in the central nervous system, hormonal balance, in particular, in production of oxytocin and characteristics of antiepileptic therapy during pregnancy [3, 13–17; 6, 61–74].

Purpose of these studies was to identify features of the epilepsy influence on the course of childbirth process and postpartum period and development of appropriate integrated preparation of women with epilepsy to delivery to improve outcomes of pregnancy for both mother and fetus.

Materials and methods for obtaining reliable data 3 groups have been identified among 155 surveyed pregnant women:

Group A1 — 57 pregnant epileptic women that underwent full prenatal preparation,

Group 1B — 45 pregnant epileptic women who did not receive prenatal preparation in full volume;

Group 2 — reference group — 53 healthy women.

Results: pregnancy in 30 (66.67%) of women with epilepsy and in 48 (90.56%) of healthy women was ended with timely delivery. Preterm delivery has been occurred in 9 (20%) patients from Group 1B and in 3 (5.66%) pregnant women from the reference group, belated delivery — in 3 (6.67%) cases and in 2 (3.77%) cases, respectively.

Thus, in epileptic patients untimely delivery was observed 3 times more frequent.

In 2 (4.44%) patients from the Group 1B late spontaneous miscarriage has been occurred at the 17–18 and 20–21 weeks of pregnancy, which in both cases was associated with worsening of neurological disease of the mother. And in 1 (2.22%) epileptic women a late induced miscarriage happened at the 21–22 week of gestation due to severe pre-eclampsia and lack of the conducted therapy effect.

Spontaneous delivery has been occurred in 28 (62.22%) pregnant epileptic women and in 42 (72.24%) healthy women. Frequency of induced delivery in Group 1B was 13.33% and exceeded corresponding figures in the reference group by 1.4 times (9.43%).

Basic indications for induction of delivery were severe pre-eclampsia, premature discharge of amniotic fluid and tendency to protracted pregnancy.

Thus, delivery through natural maternal passages has been occurred in 34 (75.56%) pregnant women with epilepsy, which is 13.11% less than that in healthy women (88.67%).

Early discharge of amniotic fluid has complicated the course of delivery by 2 times more often in women from Group 1B (24.44%) than in healthy women (11.32%). Primary uterine inertia has been recorded in 22.22% cases in epileptic women, which is 2.4 times higher than in the reference Group (9.43%). Development of secondary uterine inertia has been observed in pluripara women — in 3 (6.67%) patients with epilepsy and in 1 (1.88%) pregnant woman from the reference Group.

Analysis of the childbirth duration in the test groups is given in Table 1, where significant fluctuations of this indicator have been recorded from 2 hours 15 minutes to 15 hours 50 minutes.

Table 1. – Childbirth duration in the surveyed women

Tested groups	Delivery	Average duration of childbirth
Epileptic Maternity patient	Primary	8 hours 35 minutes ± 45 minutes*
	Secondary	5 hours 40 minutes ± 25 minutes*
Healthy Maternity patients	Primary	11 hours 25 minutes ± 50 minutes*
	Secondary	6 hours 15 minutes ± 35 minutes*

\* —  $p < 0.05$  difference is valid between pregnant women from Group 1B and Group 2

As the table shows, in maternity patients with epilepsy shortening of the delivery duration was marked both in primipara and multiparous women compared with those in the group of healthy women. That is, despite high incidence of uterine inertia, rapid delivery (in 35.56% of patients) was often observed in patients with enilepsii — 34.6% cases in primiparous and 36.8% cases in multiparous women.

The volume of blood loss during delivery through natural maternal passages in patients of the Group 1B ranged from 100 ml. to 450 ml., averaged  $320 \pm 35.7$  ml. ( $p < 0.001$ ) and was significantly different from the results in the Group 2

$224.6 \pm 32.1$  ml. ( $p < 0.001$ ). In 3 (6.67%) women from the Group 1B hemorrhage in the postpartum period has reached 350 ml. or more, which exceeds allowable volume. This is 3.5 times more than in healthy women (1.88%). In one case (2.22%) in the postpartum period manual removal of placenta and release of afterbirth was conducted due to dense attachment of the uterine cake Hypotonic bleeding was developed in two patients (4.44%) with epilepsy in the early postpartum period which was stopped through conservative way (in one case — after emptying the bladder by catheter, by using uterine massage externally, by application of cold

to the abdomen and intravenous injection of oxytocin in the second case — after manual examination of the uterine cavity).

Thus, our study confirms the literature data that factors predisposing to bleeding in the postpartum period and early postpartum period in women with epilepsy are: disorders of neurohumoral homeostasis, anemia, burdened obstetric and gynecological anamnesis and application of anti-epileptic drugs [1, 13–17; 7, 799–820].

Surgical delivery by cesarean section was performed in the Group of patients with epilepsy in 11 (24.44%) patients, that is 2 times more often than in the reference Group (in 6 (11.3%) women). Operation in 90.9% cases was carried out

under endotracheal anesthesia and in 9.1% — under epidural anesthesia (with compensated form of disease).

Causes of abdominal delivery in the surveyed group of women are shown in Table 2.

In Group 1B cesarean section was often performed due to ineffectiveness of the labor induction in premature discharge of amniotic fluid, which in the structure of indications for abdominal delivery was 45.5%. Herewith during antenatal discharge of amniotic fluid in all cases labor induction was ineffective, that gives us a reserve to optimize management of pregnancy and reasonable delivery planning. Also it should be noted that there is a very small percentage of indications for operative delivery on the part of fetus (2.22%).

Table 2. – Indications for operative delivery

Indications	Epileptic women		Healthy women	
	Abs	%	Abs	%
Inefficiency of delivery induction with premature discharge of amniotic fluid	5	11.11	2	3.77
Premature detachment of placenta	1	2.22	–	–
Pelvic presentation	1	2.22	1	1.88
Aged primipara	1	2.22	1	1.88
Pre-eclampsia treatment failure	2	4.44	1	1.88
Uterine scar	1	2.22	1	1.88
Acute fetal hypoxia	1	2.22	1	1.88
Epileptic seizure in delivery	1	2.22	–	–
Increased attacks 3 time a day	1	2.22	–	–

The share of indications for cesarean section due to neurological diseases of mother in the structure was 18.2%. In 2 (4.44%) women tubal ligation has been performed, provided that in one case there was uterine scar and third delivery and in another case there was epilepsy with mental disorders.

Thus, in most cases with epilepsy — in 9 (81.8%) women — causes of cesarean section was obstetric pathology and not epilepsy and its complications. Analyzing frequency of complications during childbirth with epilepsy we have discovered that with increase of the delivery number the rate of complications shall increase as well (Table 3). Analysis of the dependence of the blood loss volume on the degree of

compensation of pathology of the nervous system showed that the average amount of blood loss increases with frequency of epileptic seizures. The greatest number of complications of delivery was observed in multiparous women with epilepsy [2, 66–68; 5, 91–95]. During delivery in pluriparous women with epilepsy premature discharge of amniotic fluid, secondary uterine inertia, hypotonic bleeding, perineal tears and surgical delivery occur more than in primiparous and multiparous women. Higher percentage of the maternity passage injuries is a reserve for rational labor management in the process of fetus expulsion and extension of indications for application of operational facilities during delivery (such as perineo- and episiotomy).

Table 3. – Complications of the childbirth process and early postpartum period, depending on the parity of delivery in epileptic patients

Complications	Total		Parity of delivery					
			Primiparous		Multiparous		Pluriparous	
	Abs	%	Abs	%	Abs	%	Abs	%
Premature discharge of amniotic fluid	11	24.44	2	7.69	5	35.71	4	80
Primary uterine inertia	10	22.22	6	23.07	4	28.57	–	–
Secondary uterine inertia	3	6.67	–	–	–	–	3	60
Cesarean section	11	24.44	2	7.69	6	42.85	3	60
Ruptures of maternity canals	7	15.56	5	19.23	2	14.28	–	–
Pathology of separation and detachment of placenta	1	2.22	–	–	1	7.14	–	–
Hypotonic hemorrhage	2	4.44	–	–	–	–	2	40
Manual inspection of the uterine cavity	1	2.22	–	–	–	–	1	20

We have also conducted analysis of particular features of the delivery process depending on the degree of the epileptic process compensation. It was discovered that the number of complications in delivery increases with worsening of neurological disease during pregnancy. In subcompensation of epilepsy premature discharge of amniotic fluid complicated delivery process in 36.84 % cases, abnormalities of labor in 42.1 % cases, bleeding in 26.31 % cases, and in compensated disease course — in 17.39 %, 21.7 %, 8.69 % cases respectively. Operative delivery was performed in the group with decompensation of epilepsy in 66.67 % cases, which is 1.8 times higher than in the group with subcompensated course of disease (36.8 %), and 7.6 times more often than in the group with

compensation diseases (8.69 %). Thus, frequency of complications of pregnancy and delivery is directly proportional to the degree of compensation of the nervous system disease and increase of the delivery number.

The course of postpartum period largely depends on peculiarities of pregnancy and delivery. Table 4 shows that postpartum period in women with epilepsy was often complicated by uterus subinvolution in 15.56 % cases and hypogalactia in 13.3 % cases. The same complications have been recorded in the reference Group in 3.77 % and 7.54 % cases respectively. During ultrasound examination in the postpartum period in two cases (4.44 %) we have found remains of placental tissue in the uterus, thereat curettage in the uterine cavity was carried out.

Table 4. – Complication of the postpartum period among surveyed women

Complications	Epileptic women		Healthy women	
	Abs	%	Abs	%
Endometritis	2	4.44	–	–
Subinvolution of uterus	7	15.56	2	3.77
Hypogalactia	6	13.33	4	7.54
Mastitis	1	2.22	1	1.88
Total complications	15	33.33	7	13.2

The most frequent disorders of the lactation function occurred in primiparous women [4, 588–595]. Among surveyed women with epilepsy there was hypogalactia in 83.33 % of primiparous, whereas among healthy primiparous women hypogalactia was recorded 1.6 times less.

Overall incidence of the complicated course of postpartum period was 33.33 % in women with epilepsy, which is 2.5 times higher than among healthy maternity patients (13.2 %).

**Conclusions:** Our investigation results suggest that epilepsy is a perinatal risk factor, that significantly worsens

prognosis of the pregnancy outcome for both mother and fetus. Therefore, this group of women requires adequate prenatal preparation and targeted therapeutic and preventive actions.

Prediction of various complications, rational tactics of pregnancy management and selection of optimal methods of delivery from the perspective of perinatal obstetrics in women with epilepsy is a reserve for further reduce of obstetric and perinatal pathology.

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