Europäische Fachhochschule

European Applied Sciences

#9 – 2013

Volume 1

Impressum

European Applied Sciences
Wissenschaftliche Zeitschrift

Herausgeber:

ORT Publishing
Schwieberdingerstr. 59
70435 Stuttgart, Germany

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Die Herausgabe *verfolgt keine kommerziellen Zwecke* und wird durch die gemeinnützige Organisation „Zentrum der sozial-politischen Forschungen „Premier“ (Krasnodar, Russische Föderation) unterstützt, www.anopremier.ru.

Auflage:

№ 9 2013 (September) Volume 1 – 500
Redaktionsschluss September 2013
Erscheint monatlich
ISSN **2195-2183**

European Applied Sciences is an international, German/ English/ Russian language, peer-reviewed journal and is published monthly.

№ 9 2013 (September) Volume 1 – 500 copies
Passed in press in September 2013
ISSN **2195-2183**

купирования желчной гипертензии и профилактики таких осложнений как миграция дренажа[1]. В исследовании стояла задача купировать гипербилирубинэмию для дальнейщего проведения радикального лечение, поэтому при невозможности наружно-внутреннего ЧЧХД манипуляция останавливалась на этапе наружного дренирования во избежание дальнейших осложнений. По данным современной литературы рентгенохирургическое дренирование желчных путей является относительно безопасной процедурой. Показатели летальности и угрожающих жизни осложнений состовляют от 1 до 9%. Это подтверждается и результатами исследования. Летальность после ЧЧХД составила 2 больных. Небольшой процент тяжелых осложнений 13.5% связано с использованием малотравматичной техники катетеризации желчных путей по сельдингеру под рентгеноскопическим контролем, и выбором безопасного направления пункционной иглы.

После снижения уровня гипербилирубинемии стало возможным выполнить радикальную операцию 26 пациентам.

Выводы: Таким образом данное исследование показало что рентгенохирургическое дренирование желчных путей является эффективным и относительно безопасным способом коррекции механической желтухи при заболеваниях поджелудочной железы. ЧЧХД позволяет относительно быстро купировать проявления механической желтухи и выполнить хирургическое лечение.

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Influence of Potable Water Quality to the Peasants' Health in Hulaipolskyi Region

Background and aims: to analyze influence of mineral composition potable water to the peasants' health (in Hulaipilskyi region as the rural part of Zaporozhskyi region).

Materials and methods. According to the mineral composition of potable water six experimental rural districts, such as Hulaipolskyi, Komsomolskyi, Novoslatopolskyi, Uspenskyi, Vozdvizhenskyi, Malinovskyi and one control — Hulaipolskyi region, were included to our research.

Analysis dependence some indicators of peasants' health and mineral composition of potable water in the experimental rural districts (№ 1, 2, 3, 4, 5, 6) and in the control district have been carried out until 2008–2012 years.

Investigation quality of potable water samples, which were taken from centralized and decentralized sources in Hulaipilskyi region, as major rural part of Zaporozhskyi region, famous for its great contribution to the Ukrainian mining industry and location of Zaporozhskai atomic power station. In our research were included such criteria of physiologic value of mineral composition: averaged values of the total hardness, total mineralization, chlorides, and sulphates (general quantity of research samples — 102). General and primary morbidity among an adult peasants' population in Hulaipilskyi region have been analyses by Department of public health statistical reports in Zaporozhskyi region for 5 — year's period (general quantity of investigations — 280). Database included general and primary morbidity of an adult peasants' population, which were covered experimental and control districts, due to local medical documentation: case histories and clinical check cards in outpatient Hulaipolskyi district (total amount of case histories and clinical check cards — 350).

Scientifically substantiation of experimental and control districts choice was based on the character of water supply (mainly centralized and decentralized systems), and mineral composition of local water supply.

Results and discussion. Main feature of local water supply system is absence of additional methods of treatment potable water, despite such criteria as total hardness, total mineralization, according to National Sanitary Norms and Rules (SSRN 2.2.4–171–10) „Hygienic requirements to potable water, using for human consumption". It had been revealed over normal values of total mineralization in the local settlements of Hulaipolskyi region, which decentralized water supply was realized using shaft or tube wells: Dolynka (2265.10 mg/dm^3), Komsomolskyi (1970.87 mg/dm^3), Myrnyi (1731 mg/dm^3), Uspenivka (2182.2 mg/dm^3), Novomykolaivka (2072.4 mg/dm^3). Mineral composition of potable water abides SSRN 2.2.4–171–10 in the settlements: Liubymivka, Zalisnychne, Velyki Tersy, Priyutne, Novozlatopilia (up to 995–1100 mg/dm^3).

Some of the settlements (Vozdvyzhivka, Uspenivka, Dolynka) historically always have over normal values of total mineralization (up to 1.11–2.26 times), which caused bitter-salty taste; most of the peasants used bottled (additionally treatment) water.

Worst mineral composition of potable water was observed in Komsomolskyi and Uspenivskyi experimental districts. Total mineralization of water in these districts was ranged on the values (1731.9–1970.87) mg/dm^3 and (1350.8–2182.2) mg/dm^3. Such differences in the salinity

[1] Pre-operative biliary drainage for obstructive jaundice. Fang Y, Gurusamy KS, Wang Q, Davidson BR, Lin H, Xie X, Wang C. Cochrane Database Syst Rev. 2012 Sep 12;9.; Percutaneous transhepatic biliary drainage using a ligated catheter for recurrent catheter obstruction: antireflux technique. Hamada T, Tsujino T, Isayama H, Hakuta R, Ito Y, Nakata R, Koike K. Gut Liver. 2013 Mar;7(2):255–7

of potable water on separate settlements and various systems of water supply (centralized, decentralized and bottled water) carried out to the investigation possible correlation between mineral composition of potable water and peasants' health.

Results of our investigation suggested that since 2008–2012 years were revealed statistically significant increasing incidence of the circulatory system diseases in the settlements of Vozdvyzhivskyi (4652.17±0.40) cases, Komsomolskyi (3071.97±1.17) cases, and Novoslatopolskyi districts (4596.91±0.44) cases on 100 000 peasants ($p < 0.001$). Incidence of circulatory system diseases in these experimental districts exceeds an average annual level against control district (3048.56±0.02) cases on 100 000 peasants in (1.53, 1.01 and 1.51) times respectively. Statistically significant high level of hypertension diseases — (I10-I15) nosological form, was registered in experimental districts № 2, 3, 4, 5 ($p < 0.001$) (table 1).

Table 1. – Morbidity of adult peasants (cases on 100 000 population) at the experimental and control districts of Hulaipolskyi region during 2008–2012 years

Nosological form	Outpatient rural settlements						
	Control district	Experimental districts					
		№ 1	№ 2	№ 3	№ 4	№ 5	№ 6
IX class (I00-I99)	3048.56 ±0.02	2626.17 ±1.55*	4652.17 ±0.40*	3071.97 ±1.17*	4596.91 ±0.44*	2761.31 ±0.24	2236.06 ±2.66
(I10-I15)	1450.55 ±0.02	1250.16 ±0.01*	2366.93 ±0.03*	1928.02 ±1.14*	1770.38 ±0.24*	1600.58* ±0.38*	995.24 ±0.30
(I20-I25)	588.60 ±0.85	428.44 ±0.21*	1026.92 ±0.15*	616.96 ±0.17*	1428.46 ±0.08*	659.78 ±0.77*	1137.42 ±8.75*
XIV class (N20-N23)	69.60 ±2.83	38.60 ±0.08*	87.66 ±0.28*	179.90 ±0.32*	45.60 ±0.27	67.20 ±0.34*	40.20 ±0.15

Note. * — statistically significant exceeding of morbidity in the experimental districts against control district is > 95.5% ($p < 0.001$).

Incidence of ischemic illness of heart (I20-I25), per 100 000 peasants' population, had been discovered in the control district (588.6±0.85) cases, against (1026.92±0.15) cases in the experimental district № 2; (616.96±0.17) cases in the district № 3; (1428.46±0.08) cases in the district № 4; (659.78±0.77) cases in the district № 5; (1137.42 ±8.75) cases in the district № 6. It had been proved statistically significant tendency to increase this class of diseases at the all experimental districts, except district № 1 (428.44±0.21) cases: in (1.74; 1.05; 2.43; 1.12 and 1.93) times ($p < 0.001$).

It was established tendency to the increasing cases of kidney concernments and ureteral calculus (N20-N23) in the experimental districts № 2 (87.66±0.28) cases, № 3 (179.9±0.32) cases, and № 5 (67.20±0.34) cases against (69.6±2.83) cases on 100 000 peasants in the control district ($p < 0.001$). Same tendency was registered for XIV class of diseases among inhabitants of Vozdvyzhivskyi and Komsomolskyi outpatient rural settlements (up to 1.26–2.58) times.

Tendency to the decreasing diseases of IX class, its nosological forms (I00-I99), (I10-I15), (I20-I25), and XIV class (N20-N23) was established in the experimental district № 1 ($p < 0.001$).

Analysis prevalence of diseases determined negative tendency to growth IX class (I00-I99) among peasants, covered experimental districts № 5 (37002.87±0.02) cases and № 6 (39375.45±0.21) cases, that exceeds average annual rates for this class of diseases in the control district (36757.75±0.43) cases on 100 000 peasant population (up to 1.01–1.07) times ($p < 0.001$).

Same tendency was registered for prevalence IX class of diseases (I10-I15): district № 5 (18571.69±0.22) cases up to 1.02 times, and № 6 (20980.25±0.30) cases up to 1.15 times against (18149.8±0.34) cases on 100 000 peasants, living in the control district (table 2).

Table 2. – Prevalence of diseases at an adult peasants (cases on 100 000 population) in the experimental and control districts of Hulaipolskyi region during 2008–2012 years

Nosological form	Outpatient rural settlements						
	Control district	Experimental districts					
		№ 1	№ 2	№ 3	№ 4	№ 5	№ 6
IX class (I00-I99)	36757.75 ±0.43	35240.5 ±0.13	30707.57 ±3.81	30745.5 ±2.48	33037.0 ±0.08	37002.87 ±0.02*	39375.45 ±0.21*
(I10-I15)	18149.8 ±0.34	17341.25 ±0.68	15986.22 ±0.51	15681.23 ±0.40	13957.9 ±0.16	18571.69 ±0.22*	20980.25 ±0.30*
(I20-I25)	7921.0 ±0.09	6949.45 ±0.15	7758.29 ±0.44	6953.72 ±0.25	10090.41 ±0.36*	12535.89 ±3.13*	7020.99 ±1.19
XIV class (N20-N23)	145.7 ±0.27	91.61 ±0.25	137.75 ±0.09	179.9 ±0.17*	205.15 ±0.14*	213.81 ±0.22*	187.3 ±0.15

Note. * — statistically significant exceeding prevalence of disease in the experimental districts against control district is > 95.5% ($p < 0.001$).

Prevalence IX class (I20-I25) of diseases per 100 000 peasants determined tendencies to growth: in the district № 4 (10090.41±0.36) cases; in the district № 5 (12535.89±3.13) cases, against (7921±0.09) control case study. The highest frequency prevalence these classes of diseases had been registered among peasants' population since 2008–2012 years, which were inhabitants of an experimental rural district № 4, 5 (up to 1.27–1.58) times.

It had been proved statistically significant growth XIV class (N20-N23) prevalence of diseases in the rural district № 3 (179.9±0.17) cases, № 4 (205.15±0.14) cases, and № 5 (213.81±0.22) cases in comparison with control district (145.7±0.27) cases on 100 000 population of peasants. For similar period prevalence to increase diseases was registered in these experimental districts: up to (1.23, 1.41 and 1.47) times ($p < 0.001$).

On the other hand, reduce prevalence IX class of diseases (I00-I99), (I10-I15), (I20-I25), and XIV class (N20-N23) carried out in the territory of such settlements as Hulaipilskyi, Vozdvyzhivskyi and Komsomolskyi districts, except prevalence cases of kidney concernments and ureteral calculus (N20-N23).

Conclusion:

1. Results of our research revealed causal link between over normal mineral composition of potable water in Hulaipolskyi region and statistically significant growth such classes of diseases: IX class (I00-I99), (I10-I15), (I20-I25), XIV class (N20-N23). Database of

our investigations had proved that mineral composition of potable water and its influence on the inhabitants of Hulaipolskyi region depends on degree of mineralization, combination of salts and state of peasants' health.

2. In the settlements of Hulaipolskyi region, where peasants' population used potable water with over normal values of total mineralization, cases of kidney concernments and ureteral calculus (N20-N23) exceeds average annual level of diseases during 2008–2012 years. Thus, incidence XIV class (N20-N23) of diseases among inhabitants of local settlements exceeds an average annual level of diseases: in Myrnyi and Komsomolskyi settlements — up to 2.58 times, or (179.90±0.32) cases on 100 000 populations of peasants and up to 1.26 times, or (87.66±0.28) cases of diseases in Vozdvyzhivskyi experimental district.

3. It was established, that total mineralization of potable water in the settlements Myrnyi (1970.87 mg/dm^3) and Komsomolskyi (1731.9 mg/dm^3) exceeds an average level of mineralization in Hulaipolskyi region, except settlements Dolynka, Uspenivka, Novomykolaivka, which population used mainly bottled water from Hulaipolskyi city. Tendency to decrease IX class of diseases (I00-I99), (I10-I15), (I20-I25), and XIV class (N20-N23) was registered in the Hulaipilskyi and Novozlatopilskyi districts, where mineral composition of potable water abides SSRN 2.2.4–171–10.

4. Significantly lower level of morbidity was determined among peasants' population in Hulaipolskyi experimental district: IX class (I00-I99) of diseases (2626.17±1.55) cases on 100 000 peasants; IX class (I10-I15) of diseases (1250.16±0.01) cases; IX class (I20-I25) of diseases (428.44±0.21) cases; XIV class (N20-N23) of diseases (38.60±0.08) cases. At the peasants of Novoslatopolskyi district incidence of kidney concernments and ureteral calculus was significantly lower (45.60±0.27) cases against average annual level in the control district (69.60±2.83) cases on 100 000 peasants, up to 1.53 times ($p < 0.001$).

5. Thought, incidence per 100 000 population of peasants exceeded average annual level in the control district by such classes of diseases as IX (I00-I99), (I10-I15), (I20-I25), XIV (N20-N23) in the settlements of Vozdvizhenskyi and Komsomolskyi districts. Since 2008–2012 years statistically significant growth prevalence of diseases was revealed in the Novoslatopolskyi, Uspenskyi, Malinovskyi outpatient rural settlements, by all classes of diseases: IX (I00-I99), (I10-I15), (I20-I25), XIV (N20-N23) ($p < 0.001$).

6. Unfavorable tendency to increase averaged values of the total hardness, total mineralization, chlorides, and sulphates in the potable water for the period 2008–2012 years, taken from Hulaipolskyi purification station, caused negative tendencies to growth IX class of diseases. There were determined statistically significant correlations an average force between some components of mineral composition potable water, such as total hardness, total mineralization, chlorides, and sulphates and prevalence separate nosological forms of diseases (I00-I99), (I10-I15), (I20-I25) ($R = 0.30$; $p < 0.001$).

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Treatment of patients with obstructive jaundice

One of the most difficult problems in the emergency management is the treatment of the patients with the abnormalities of bile outflow of the different etiology[1]. The main manifestation of these diseases is obstructive jaundice, which exist as a reason of the obstruction of bile ducts. The most often reasons of obstructive jaundice is cholangiolithias, tumorous destruction of the organs of the pancreatobile's zone, cicatrical strictures of gepatocholechod.

Nowadays the actual researches are those, which are about perfection of the system of management the quality of the medical help, including the surgical help, what is conditioned by the existing negative tendencies, as followed: the law[2] quality of the medical help in general, existing of the defects in accordance of the treatment-diagnostic process, the law level of introduction of the resourse-saving technologies[3]. This problem is the most actual today, with the deficite of finansing and limited resourses of the system of health care[4].

The treatment of the obstructive jaundice is the actual problem of the abdominal surgery. Though there is a great progress in the solving of this task the optimal surgery tactics of the treatment of the diseases of the bile outflows, with the obstructive jaundice, is not defined so far and is being actively discussed in the sientific periodicals[5].

On the level of the rendering of the emergency help the main task of treatment is decompression of the bile's tract and it doesn't depend on the reasons of obstruction. During many decades the main way of decompression, have been the emergent surgical intervention. But operations, made on the level of jaundice and liver deficiency, especially treating the old patients, having the significant accompanying pathology are attended by the big quantity of complications and high lethality[6]. Today for this reason are used the following methods: papilosphincterotomy, nasobile's drenage, mechanical lithotripsy, ballon hydrodilatation, stenting of hepaticoholehod. These interventions, liquidating the jaundice and cholangithis, not only let to prrepare the patient to the planned interventioon, but in many cases can be the alternative to the operative intervention[7].

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