Possibilities of electropuncture diagnostics of diabetes mellitus and its complications

HER. Metax, A.A. Fadeev, V.V. Vetchinov, E.E. Meizerov (Institute of Reflexology FNECTs TMDL MH and SR RF, Moscow, Russia)

Introduction

In the present study, a statistical analysis of the data of patients with diabetes mellitus (DM), obtained by electropuncture diagnostics by the method of R. Voll, was carried out. An attempt was made on a large number of measurements carried out by different doctors to assess the diagnostic capabilities of the method to identify the main pathways of pathogenesis, features of the course of the disease, and identify complications. This work is a continuation of the previously initiated studies of patient databases [1].

Materials and research methods

The source of the analysis was an extensive database from 2000 to 2008, compiled from studies of various doctors using the R. Voll method, including more than 40 thousand visits. On its basis, 2 groups were formed.

Analysis group (experimental group) represented a sample from a common database that met the following criteria: patients of both sexes with established clinical and laboratory methods of analysis for the diagnosis of diabetes. The total number of visits was 447, of which 378 were for patients over 40 years old, which corresponds to 84.5% of the experimental group. Considering the fact that people over 40 suffer mainly from type 2 diabetes, we concluded that in the sample presented, the ratio of type 2 and type 1 diabetes is approximately 84% and 16%.

Comparison group (control group) consisted of visits to patients of both sexes in a wide age range with diverse pathologies of varying severity. The number of visits in the comparison group was 42,547, of which 49% were patients over 40 years old.

Measurements by R. Voll's method were carried out using the medical-diagnostic complex ARM "PERESVET", registration certificate 29/23041098 / 1567-01 dated October 9, 1998. Diagnostic conditions are as close as possible to the requirements of the method [2]. Diagnostics was carried out against the background of short-term discontinuation of pharmacological drugs or immediately before the next drug intake.

Research results and their discussion

The analysis included points located in the area of the hand and foot. Corporate points were measured significantly less frequently and were excluded from the study. For each point, the mean measurement value was calculated in the analysis group and in the comparison group.

The first conclusion that was made concerned a significant decrease in the mean values at almost all measurement points in the group of patients with diabetes mellitus. Thus, an overall decrease in conductivity was observed at the measurement points. Nevertheless, as can be seen from Fig. 1, there were certain outliers with a steady upward trend in values.
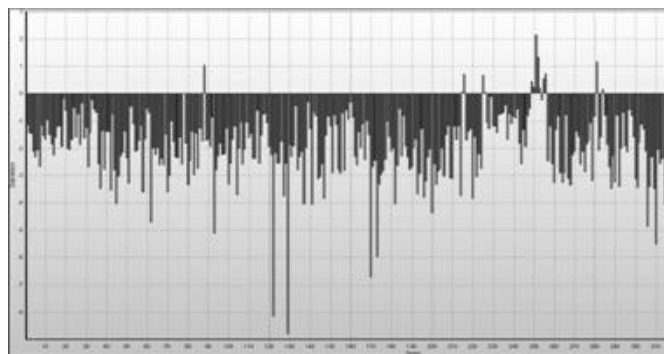
Rice. one. Deviations of the mean values of conductivity in the group of diabetic patients from the comparison group.

The deviation range of the mean values of the conductivity at the points was 0-9 conv. units For the analysis, we selected the points with the greatest deviations (more than 3 conventional units). It turned out that the "peaks" of the deviations are formed not just by individual points, but by their groups related to the meridians. Therefore, tab. 1 presents a ranked list of meridians with the number of changed points and the point of the meridian with the greatest deviation.

Table 1

Meridians with the lowest values relative to the comparison group

No.	Meridian	Average values deviations for meridian points (number changed points on the meridian)	Point on the meridian with (maximum deviation)
Negative deviations			
one	Endocrine	- 6.9 (3)	pancreas (tail) (-8.8) CTI pancreas
2	Pancreas	- 5.3 (3)	(-6.7)
3	Allergies (vascular degeneration)	- 4.23 (2)	sclerosis of the vessels of the body on the right (-5.2)
4	Nervous degeneration	- 4.15 (2)	autonomic nervous system on the left (-4.7)
five	Liver	- 4.1 (1)	CTI liver on the right (-4.1)
6	Genitourinary organs	- 3.86 (8)	plexus of the bladder on the left (-5.5) CTI
7	A heart	- 3.6 (5)	heart on the left (-4.1)
eight	Articular degeneration	- 3.56 (6)	joints of the pelvic girdle and legs on the left (-4.3)
nine	Colon	- 3.44 (5)	lymph vessels of the large intestine on the left (-4.1)
10	Stomach	- 3.36 (5)	CTE stomach on the left (-3.9)
eleven	Bud	- 3.28 (4)	renal plexus on the right (-3.4)
12	Circulatory	- 3.24 (4)	lymphocapillaries of the vessels of the body
13	Gall bladder	- 3.2 (4)	on the right (-3.7) CTI biliary system (-3.3)
fourteen	Spleen	- 3.15 (2)	white pulp of the spleen (neck, chest) (-3.3)
Positive deviations			
one	Fat and muscle degeneration	+ 1.8 (2)	Railway organs and vessels of the chest cavity on the right (+2.2)
2	A heart	+ 1.1 (1)	coronary vessels (+1.1) right
3	Bud	+ 1.2 (1)	kidney parenchyma (+1.2)

As you can see from the table. 1, pathological parameters are recorded on a large number meridians and associated organs. Topping the list of meridians with the greatest deviations are the endocrine meridian and the pancreas meridian. And this is understandable, since insulin deficiency plays a key role in the pathogenesis of diabetes mellitus - absolute or relative. Absolute insufficiency is characterized by a decrease in the synthesis and secretion of insulin, relative - by tissue insulin resistance and a progressive decrease in β-cell function. These violations are the most pronounced and early, as evidenced by the lowest indicators of all presented in table. one.

It is also interesting that both meridians are indicators of the disease, but the leading role belongs to the endocrine meridian. In addition, the indicators on the point of the pancreas on the left have more pronounced deviations than on the right. This can be explained by the predominant localization of the islets of Langerhans in the region of the tail of the pancreas.

When analyzing the points of the pancreatic meridian, it can be seen that a pronounced decrease in indicators is recorded at points associated not only with carbohydrate, but also fat

exchange. Disorders in nucleoprotein and protein metabolism are manifested to a lesser extent. These changes are also consistent with the known data on the combined decrease in the exocrine function of the pancreas and the violation of all types of metabolism in diabetes, among which the most significant role belongs to carbohydrate and fat metabolism [3].

Lipid metabolism disorders in diabetes mellitus are combined with changes in the liver. Increased breakdown of glycogen in the liver in diabetes mellitus causes the replacement of liver cells freed from glycogen with fat. There is fatty hepatosis, an indispensable companion of diabetes, leading to a pronounced decrease in liver function. Disorders of fat metabolism are also reflected in the fat and muscle degeneration meridian, on which, it would seem, paradoxically, an increase in indicators is noted. Nevertheless, if we compare these data with the peculiarities of the metabolism of adipose tissue in diabetes, it can be assumed that this corresponds to the activation of the process of lipolysis in visceral adipose tissue [4].

Allergy meridian turned out to be one of the leaders in the table of deviations due to the point "vascular sclerosis", which has significant deviations on both the right and left sides. Together with the blood circulation and heart meridian, it reflects changes in the cardiovascular system, corresponding to diabetic micro- and macroangiopathy and cardiopathy.

It is interesting that the next place in the severity of changes is occupied by the meridian of nervous degeneration. Following the pronounced endocrine and metabolic disorders, the main severity of the disease falls on the vascular and nervous systems. The most altered point on the meridian of nervous degeneration is the point of the autonomic nervous system. Table 2 presents the points associated with the dysfunction of the autonomic nervous system in relation to many organs. One gets a clear impression of a primary disorder of nervous regulation with the development of diabetic neuropathy, leading to damage to almost all organs and systems of the body.

table 2

Points of the meridian of nervous degeneration and autonomic plexus of organs, with the greatest deviations

Meridian	Dot	Deviation
Nervous degeneration	autonomic nervous system on the left "brain,	- 4.7
	brain stem" on the right aortic arch with	- 3.6
Circulatory	cardiac ganglion	- 3.0
	abdominal aorta with aorta abdominal	- 3.0
Genitourinary organs	plexus bladder plexus	- 5.5
Endocrine	cervical ganglia of the sympathetic trunk on the	- 3.7
Colon	left, superior hypogastric plexus	- 3.5
	iliac plexus	- 3.0
Bud	renal plexus on the right	- 3.4
A heart	cardiac plexus on the left	- 3.0
Stomach	solar plexus on the right	- 3.0
Gall bladder	hepatic plexus on the left	- 3.0

From table. 2 shows that both the central structures of the brain (diabetic encephalopathy) and the sympathetic plexuses of the autonomic nervous system (autonomic polyneuropathy) are involved in the lesion. It is known that autonomic neuropathy can be both clinically expressed and subclinical. It manifests with dysfunction of one or more organs. Using the method of electropunctural diagnostics, these changes are detected much earlier.

As you know, distinguish the following shape autonomous neuropathies: cardiovascular, gastrointestinal, urogenital, etc. [5]. The cardiovascular form of autonomic neuropathy is manifested by painless myocardial ischemia, impairment

heart rate and conduction, orthostatic hypotension, left ventricular dysfunction [6]. If we correlate these clinical observations with the acupuncture picture of cardiac meridian disorders, we can see a general decrease in heart function, which is reflected in the CTE, a violation of autonomic innervation (cardiac plexus), conduction disturbances (atriventricular node, etc.), and spasm of coronary vessels (increase in indicators at the point of coronary vessels) (see table. 3). Vascular dystonia is reflected by a pronounced asymmetry of measurement indicators at the point of the arteries of the blood circulation meridian (on the right - below the comparison group, on the left - as in the comparison group).

Table 3

The most deviated points of the meridian of the heart

Meridian	Dot	Deviation
A heart	KTI heart to the left	- 4.1
	KTI heart on the right	- 3.8
	"Atrioventr. node, right. bundle branch of His	- 4.1
	"subendocardial lymphatic system on the left	- 3.1
	cardiac plexus on the left	- 3.0
	coronary vessels	+1.1

The manifestation of the gastrointestinal form of autonomic neuropathy is functional hypoacidosis and gastric paresis, which are accompanied by anorexia, nausea and vomiting. These changes also find their expression in a decrease in indicators on the stomach meridian. A known problem is gastrointestinal dysfunction, the manifestation of which is impaired normal absorption of food, constipation, periods of nocturnal diarrhea. When analyzing the indicators, the most pronounced deviations are typical for the meridian of the large intestine and gallbladder.

A serious complication is the urogenital form of autonomic neuropathy, which manifests itself in such variants as a neurogenic bladder and associated disorders of its emptying. Interestingly, on the meridian of the bladder, the lowest measurement values are also recorded at the points of the autonomic plexus and lymph drainage. Genitourinary disorders are reflected in the points of the genital appendages and their autonomic nerve plexuses. The most famous clinical manifestations of these are erectile dysfunction.

On the kidney meridian, most points have a pronounced decrease in measurement indicators, which is associated with manifestations of nephropathy [7]. A separate position is occupied by the point of the renal parenchyma, which is characterized by a pronounced asymmetry of indicators: on the right above the isoline, on the left - below. As you know, there are 5 stages in the development of diabetic nephropathy. The first three stages are characterized by an increase in the glomerular filtration rate, for the subsequent ones - a tendency to decrease. It can be considered that the asymmetry of indicators at the point of the renal parenchyma reflects the violation of the filtration capacity of the kidneys in dynamics: in some patients, the function of the renal parenchyma is increased, in others it is reduced.

The last meridian that I would like to draw attention to is the articular degeneration meridian. As can be seen from Table 1, the greatest changes are characteristic of the joints of the pelvic girdle and legs (deviation = -4.3). Noteworthy is the point of the lumbosacral spine, located on the meridian of the bladder, which also refers to the "lower floor" of the body. These changes are also not accidental and emphasize the typical localization of the affected joints in diabetes, which is reflected, first of all, by the diabetic foot syndrome.

Conclusions:

1. R. Voll's method is a clear reflection of the main pathways of the pathogenesis of diabetes and allows you to clearly identify the main organs and systems that have the greatest functional disorders at this stage of the disease.

2. Statistical analysis of the data makes it possible to compose an electropuncture portrait a patient suffering from diabetes, indicating the list of meridians and points involved in the pathological process, and determine the direction of changes in indicators.

3. Such a database analysis allows you to establish functional relationships between organs and measurement points, helps in the interpretation of measurement values.

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