

Clinical behavior - etiologic of the syncope in patient pediatric.

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Summary

the syncope constitutes a complex problem that requires of a clinical guide that he/she rationalizes it. In the last years it is bigger the interest for the handling of different causes due to their frequency, nature incapacitante, their potential graveness and to the complex problems implied in their genesis and difficult to diagnose. He/she was carried out a study in 80 patients assisted in the external consultation of cardiology, of the Policlínica of Pediatric Specialties, and coming from the area of hospitalization. the prematurred antecedent is not picked up as factor to predispose you in the revised literature and this could keep relationship with the síncope. In relationship to the cianosis this aspect it was not significant, the same as the apnea crises and the ventilation mechanics in the stage neonatal, however the antecedent of infections was outstanding following him the hipoxia, the first floor weight when being born and the slowed intra-uterine growth. A bigger incidence of the syncope is reported in patient with relatives that suffer of arterial hypertension. The sudden death in spite of constituting a factor to predispose you very important, it reports few cases since in this study they are not frequent such cases. He/she was a bigger factors began like the fear, the pain and the maintained stress, this last one mainly in the adolescents. Most of the patients presented syncopes of vasovagal etiology. Other less frequent causes those of origin psicogen, neurological, heart, endocrine and by drugs. the glucemia levels and hemoglobin in most of the cases stayed in their normal values.

Key Words: síncope, pediatric patients.

Introduction

The Syncope, constitutes the main cause of loss of the conscience in the children and a medical urgency for the professionals of the health. The term syncope, of the Greek synkope, means ceasing, interruption or sudden pause literally. It is located in the group of dysfunctions paroxísticos by anoxia / cerebral hipoxia not epileptic. When obnubilation exists but there is not loss of the conscience he/she is called pre syncope or lipotimia.

It is characterized by an alteration or abrupt and transitory loss of the conscience and of the tone postural, caused by a decrease from the sanguine flow to the brain with spontaneous and complete recovery, without leaving neurological sequels, being the call syncope neurocardiogénico or vasovagal the most frequent in these ages. In general, the clinical symptoms is similar in all the types because it is related intimately with the duration of the cerebral hipoxia. Their diagnosis is based fundamentally on a deep anamnesis and the patient's detailed physical exam in the moment of the event.

The carried out studies generally indicate that although it is a clinical situation assumed as benign, it causes anxiety so much for the patient as their relatives, for what becomes necessary the study of their etiology, also keeping in mind that they can be due to less frequent illnesses of heart and neurological origin but potentially of more graveness, even being able to be cause of sudden death.

Most of the specialists in the topic coincide in that the syncope constitutes a complex problem that requires of a clinical guide that he/she rationalizes it. In the last years it is bigger the interest for the handling of different causes due to their frequency, nature incapacity, their potential graveness and to the complex problems implied in their genesis and difficult to diagnose. 4

The relevancy of having referred problem leaves of identifying that it is a clinical entity whose complexity from the social point of view has a direct repercussion in the since population it generates anguish, uneasiness and anxiety in the family of the patients. The figures of consultations increase gradually in the medical institutions, arriving in occasions until the hospitalization for lingering periods.

It is evident that we are before a problem that classifies like a felt necessity that it allows to be studied by the scientific community and consequently to implement alternative that attenuate the consequences that it generates from the social and economic point of view, particularly summed up in an appropriate attention to this problem through the analysis of the characteristics of the syncope in the patients assisted in the external consultations of cardiology or coming from the area of hospitalization.

In the international environment, it represents 1-3% of the consultations in the Pediatric Services of Urgency, with a bigger incidence between the 10 and 18 years of age, being the feminine sex the most frequent.

Objectives

General objective

To describe the clinical behavior - etiológico of the syncope in the patients assisted in the cardiology consultation and entered in the period understood among the first of September of 2013 and the first of September 2014 in the Provincial Pediatric Hospital "Eduardo Agramonte Pineapple" of Camagüey.

Specific objectives

- " To characterize the patients according to age and sex.
- " To identify the personal and family pathological antecedents.
- " To describe the main characteristics of the syncope as for pródromos, accompanying symptoms and recovery of the event.
- " To show the main results of the used diagnostic tests.
- " To identify the etiology.

Method

The study universe was constituted by a sample of 80 patients assisted in the external consultation of cardiology, of the Clinical of Pediatric Specialties, and coming from the area of hospitalization, to those that were applied the inclusion approaches or established exclusion, previous informed consent to the parents and patient.

Approaches of Inclusion:

All the patients assisted by syncope in the period of study.

Exclusion approaches:

Presence of mental discapacity on the part of the patient or family responsible that impedes the correct participation in the investigation.

Gathering of the information

The source for the obtaining of data was obtained through the clinical history of external consultation or each patient's hospitalization. A gathering registration was made according to consulted bibliography, which was applied by the author of the investigation based on the established ethical principles and he/she became the primary registration of the investigation. The data that were not picked up in the clinical histories were contributed by the patients or their relatives.

Prosecution plan and analysis of the information

The prosecution of the obtained information was carried out by means of the use of the Statistical Package SPSS in a computer Pentium 4 with intel.

Results

Clinical characterization – Etiologyc of the syncope in pediatric ages.

Chart 1: Group of ages and sex.

GROUP OF AGES	SEX				TOTAL	
	MALE		FEMALE		No	%
	No	%	No	%		
< 5 years	2	2.5	3	3.7	5	6.25
6 – 10 years	18	22.5	25	31,2	43	53.7
11 – 18 years	12	15.0	20	25	32	40
TOTAL	32	40	48	60	80	100

Source: Form for the gathering of data.

Statistical significance (Groups of ages) $p = 0,002$ $V = 0,145$ $V(p)=0,00276$

The chart No. 1 sample the distribution of patient according to age groups and sex. More than 50% of the patients they were understood in the superior ages to 6 years, distributed in 43 of 6-10 years that represent 53.7% of the entirety of the patients and 32 among 11-18.40%). The other of the age group (<5 years) he/she had smaller representation,

The correlation determinations among variables showed significance ($p = 0,003$) and the Value of high and significant Crámer shows independence among the groups of ages.

In a general way it is possible to appreciate that the female sex prevailed (55,8%) lightly on the male one (40%). The distribution for sex inside the group of ages behaved in a general way with not very significant differences. He/she was not statistical significance in the relationships among variables.

Chart 2: Prenatal antecedents.

Prenatal Pathological antecedents		
	No.	%
Infections	30	37,5
Arterial hypertension	17	21.2
Anemia	10	12,5
Inadequate gain of Weight	5	6,2
Toxemia	5	6.2

Source: Form for the gathering of data.

The chart 2 sample the distribution of the patients according to the prenatal antecedents. 37,5% entered with antecedents of infections.

The rest of the antecedents of more frequency was distributed in the following way: arterial hypertension in 17 patients (21,2%), 6 epilepsy (7,5%), toxemia and inadequate gain of weight in 5 patients (6,2%)

Chart 3: Perinatal antecedents.

Perinatal Pathological antecedents		
	No.	%
Prematuridad	10	12,5
Under Weight to Be born	8	10
Hipoxia	4	5
slowed intra-uterine growth	3	3,7

Source: Form for the gathering of data.

The chart 3 sample the distribution of the patients according to the perinatal antecedents. 12,5% entered with prematuridad antecedents.

The rest of the antecedents of more frequency was distributed in the following way: under Weight to be born in 8 patients (10%), 4 hipoxia (5%) and slowed intra-uterine growth with 3 patients (3,7%)

Chart 4: Antecedent Posnatales.

Pathological antecedents Posnatales		
	No.	%
Infections	10	12,5
Cianosis	7	8,7

Apnea	2	2,5
Ventilación Mecánica	2	2,5

Source: Form for the gathering of data.

The chart 4 sample the distribution of the patients according to the antecedents post native. 12,5% entered with antecedents of infections.

The rest of the antecedents of more frequency was distributed in the following way: Cianosis in 7 patients (8,7%), Apnea and ventilation mechanics in two patients (2,5%).

The rest of the antecedents of more frequency was distributed in the following way: spasms of the sob in five patients (6,2%), cardiopathyes 4 (5%), psychiatric dysfunctions in 3 patients (3,7%) and 2 HTA (2,5%).

Chart 5: Personal and Family Pathological antecedents.

	Pathological antecedents					
	RELATIVES		PERSONALS			
	No.	%	No.	%	Total	%
Cardiopathyes	9	11,25	4	5	13	16,25
Heart arrhythmias	7	8,75	6	7,5	13	16,25
Diabetes Mellitus	10	12,5	0	0	10	12,5
Cerebral Tumor	1	1,25	0	0	1	1,25
Epilepsy	5	6,25	6	7,5	11	13,75
HTA	20	25	2	2,5	22	27,5
Muerte súbita	2	2,5	0	0	2	2,5
Sudden death	4	5	3	3,75	7	8,75
Psychiatric dysfunctions	7	8,75	5	6.25	12	15

Source: Form for the gathering of data

The chart 5 sample the distribution of the patients according to the family and personal pathological antecedents. 25% entered with family antecedents of HTA and 7,5% they entered with antecedents of heart arrhythmias and epilepsy.

The rest of the antecedents in the case of the personnels of more frequency was distributed in the following way: spasms of the sob in 5 patients (6,2%), cardiopatías 4 (5%), psychiatric dysfunctions in 3 patients (3,7%) and 2 HTA (2,5%).

With relationship to the patients according to the family pathological antecedents. The rest of the antecedents of more frequency was distributed in the following way: bronchial asthma in 13 patients (7,5%), 10 diabetes mellitus (8,7%), heart arrhythmias and cardiopathyes in 9 patients (11,2%),

Chart 6: Factors initials.

Factors initials		
	No.	%
Pain	62	77,5
Fear	49	61,2
Maintained stress	45	56.2
To stay of Foot	27	33,7
To look at blood	10	12,5
Fast	8	10
Closed places	5	6.2
Others	13	16,2

Source: Form for the gathering of data.

The chart 6 sample the distribution of the patients according to the factors initials. 77,5% of the patients entered with pain.

The rest of the antecedents of more frequency was distributed in the following way: fear in 49 patients (61,2%), 45 maintained stress (56,2%), to be standing (33,7%), to look at blood 10 patients (12,5%) and fast in 8 patients (10%),

Chart 7: Prodroms.

Prodroms		
	No.	%
Weakness	80	100
Blurred vision	70	87.5
Sudoration	70	87.5
Fainting sensation	69	86,2
Throbs	57	71.2

Hiperventilation	9	11.2
Paresthesias	4	5
Sensation of Imminent Death	3	3.7
Other	4	5

Source: Form for the gathering of data.

The chart 7 sample the distribution of the patients according to prodroms. 100% entered with weakness. The rest of the antecedents of more frequency was distributed in the following way: 70 patient blurred vision and sudoraciones (87,5%), 69 with fainting sensation (86,2%), 9 patient hiperventilation (11,2%) and 4 with paresthesias (5%), I Annex 3

Chart 8: Accompanying symptoms.

Accompanying symptoms		
	No.	%
Paleness	77	96,2
cooling	68	85
perspiration	65	81.2
Bradycardia	40	50
Hypotension	39	48,7
Convulsión	2	2,5
Relaxation of sphincters	1	1,2
Other	2	2,5

Source: Form for the gathering of data.

The chart 8 sample the distribution of the patients according to accompanying symptoms. 96,2% of the patients entered with paleness

The rest of the antecedents of more frequency was distributed in the following way: 81,2% of the patients entered with cooling, in 68 patients (85%) with indifference, 40 with bradycardia (50%), 39 with hypotension (48,7%), 2 with convulsions (2,5%), and 1 with relaxation of sphincters (1,2%)

Chart 9: Recovery of the event

Recovery of the event

	No.	%
Spontaneous	73	91,2
It required medication	7	8,7
TOTAL	80	100

Source: Form for the gathering of data.

The chart 9 sample the distribution of the patients according to recovery of the event. 73 patients (91,2%) the recovery was spontaneous and alone 7 patients they required medication (8,7%)..

Chart 10: Complementary studies. (Hemoglobin)

Hemoglobin		
	No.	%
Normal	73	91,2
Diminished	4	5
Increased	3	3,7
TOTAL	80	100

Source: Form for the gathering of data.

The chart 10 sample the distribution of the patients according to the complementary diagnostic tests (Hemoglobin), the results were normal in 73 patients (91,2%), diminished 4 patients (5%) and increased 3 (3,7%).

Chart 11: Complementary studies. (Glucemia)

Glucemia		
	No.	%
Normal	72	90
Disminished	6	7,5
increased	2	2,5
TOTAL	80	100

Source: Form for the gathering of data.

The chart 11 sample the distribution of the patients according to the complementary diagnostic tests (Hemoglobin), the results were normal in 72 patients (90%), diminished 6 patients (7,5%) and increased 2 (2,5%).

Chart12: Complementary studies. (Electrocardiogram)

Electrocardiogram

	No.	%
Normal	74	92,5
Lingering QT	2	2.5
Bradycardia	1	1,2
Taquicardia	1	1.2
Growth of cavities headphones	1	1,2
Growth of ventricular cavities	1	1,2
TOTAL	80	100

Source: Form for the gathering of data.

The chart 12 sample the distribution of the patients according to the complementary diagnostic tests (Electrocardiogram)), the results were normal in 74 patients (92,5%), QT lingering 2 patients (2,5%) in the alone remaining aspects it was presented in 1 patient

Chart 13: Complementary studies. According to results of the Ecocardiograma

Aspects	No.	%
Normal	76	95
Systolic Disfunción	–	–
Disfunción diastólica	–	–
Structural defects	3	3.7
Hypotrophic left ventricle	–	–
Ventrículo izquierdo dilatado	1	1.2
Spill pericardics	–	–
TOTAL	80	100

Source: Form for the gathering of data.

The chart 13 sample the distribution of the patients according to the complementary diagnostic test (Ecocardiogram), the results were normal in 76 patients (95%), structural defects in 3 patients (3,7%) and an extensive left ventricle.

Chart 14: Complementary studies. Electroencephalogram

Electroencephalogram		
	No.	%
Normal	78	97,5
Abnormal	2	2,5
TOTAL	80	100

Source: Form for the gathering of data.

The chart 14 sample the distribution of the patients according to the complementary diagnostic tests (Electroencephalogram), the results were normal in 78 patients (97,5%) and abnormal in 2 patients (2,5%).

Chart 15: According to Etiology.

Etiology		
	No	%
Vasovagal	46	57,5
Psicogens	10	12.5
Neurologica	5	6,2
Heart	5	6.2
By drugs or Toxic	4	5
Endocrine- Metabolics	2	2.5
Other	8	10

Source: Form for the gathering of data.

The chart 15 sample the distribution of the patients according to etiology. 57,5% entered with etiology vasovagal. The rest of the etiological factors of

more frequency was distributed in the following way: 10 patient Psicogens (5%), and 4 patients by drugs or toxic (5%) and 2 with endocrine-metabolic (2,5%),

Discussion of the results

The syncope at the moment had great importance in the medical practice, for its frequency, nature incapacitant and its potential graveness, however in the specialist scientific literature as the Dra. Ana Navarrese Dourll of the Section of Pediatric Cardiology of the Infantile Maternal Hospital of Badajoz considers that most of the squares syncopate them they are of nature benigna.⁶ Every year, more than 100.000 adults and children appeal the doctor to suffer faintings.

When analyzing the distribution of the children according to the sex he/she was a prevalence in the feminine one, result that it coincides with studies carried out from 1985 by Frangmingham mentioned by Dr. Michel Serri V⁵⁸ and other specialists of the topic like Escalante Mondragón⁹, of the Nieves' Virgin University Hospital in Granada. In countries like Uruguay and Peru is considered an incidence of the syndrome of 2.5% in girls and 3.5% in males, on the other hand Chile has 3% in patient feminine and 4% of patient masculine.

As for the groups of ages the present study picks up a minority of children with inferior ages to the 5 years, not very signal ages for the consulted bibliography but associate generally to spasms of the sob. He/she was a prevalence among the understood ages from 6 to 10 years, continued by the group of ages from 11 to 18 years, being this last group the more mentioned by Known García, the Sergio. A. Antoniuk and Carlos Casanova Carrillo⁵⁹. This last group is located in the stage of the adolescence, period characterized by important somatic and sensorial changes.

According to international data one of each 5 children has experienced a syncope episode before the 15 years of edad.²

On the other hand, the prenatal antecedents of arterial hypertension, anemia and inadequate gain of weight in the pregnancy, they prevail in the carried out study, but the consulted scientific literature doesn't contribute data in this respect.

Also, the prematuridad antecedents, it is not picked up as factor to predispose you in the revised literature and this could keep relationship with the syncope. The previously exposed thing thinks about keeping in mind that it is neonats that are born generally with marked breathing depression, hypothermia, they are particularly sensitive to the hemorrhage for their cerebral immaturity and the fragility of the womb germinal subependimaria, also being able to suffer metabolic dysfunctions among other complications elements these that can be decisive for their ulterior neurological development and their health in a general way.

In relation to the cianosis this aspect was not significant, the same as the apnea crises and the ventilation mechanics in the stage neonatal, however the antecedent of infections was outstanding following him the hipoxia, the first floor weight when being born and the slowed intra-uterine growth. It is significant that it is not approached in the consulted literature, relationship between the syndrome and the prenatal, perinatal antecedents and posnatales.

Michel Serri. V58, investigated in the antecedents pathological personnels among which highlight, the heart affections, the arterial hypertension, the diabetes mellitus, the alcoholism and the first floor corporal weight.

In the same analysis order, they had little incidence illnesses like those, the heart arrhythmias, the cardiopatías, the arterial hypertension, the psychiatric dysfunctions, the epilepsy and the spasms of the sob like personal pathological antecedents; however they are these those more enunciated by specialists as Scarabilli Ch, Scarabilli TM50 who adds also as other factors predisponentes to the diabetes mellitus, the first floor corporal weight, lung hypertension, dehydrations or bled recent and the alcoholism, this last one less frequent in the pediatric ages.

Consequently it is assumed that most of these patients didn't suffer of any illness that was the cause of these events.

Then, the family pathological antecedents as the arterial hypertension and the diabetes mellitus played a protagonistic paper presently study, in such a sense, Fernández Sanmartín M57 reports a bigger incidence of the syncope in patient with relatives that suffer of arterial hypertension. The sudden death in spite of constituting a factor to predispose you very important, it reports few cases since in this study they are not frequent such cases. He/she was a bigger prevalencia of factors desencadenantes like the fear, the pain and the maintained estrés, this last one mainly in the adolescents. Asensio Asensio. L35 in studies carried out in Barcelona observed that most of the patients unchained syncope in the face of stimuli like the fear to be in closed places, the fast, the pain and to stay a lot of time of foot. Some Cuban specialists, among them Aldana Vilas.L, Lima Mompó. J among otros³⁷, emphasizes in situations like extreme emotions, to look at blood, accesses of cough and states of dehydration among others.

Regarding the presence of symptoms that you/they precede the loss of the conscience, the doctors Kinsella. SM and Tuckey. JP23 outlines that in a survey carried out patients that suffered of syncope, 99% it presented pródromos before the event. Fellow men were the results that they were study presently, because most of the patients assure to have presented a premonitory symptom at least as for example: blurred vision, weakness, throbs and fainting sensation. In the current investigation the clinical manifestations of the syncope constitute a fundamental element, in such a sense it is verified that it continues being the paleness, the indifference, the sudoración, the bradycardia and the hypotension the main accompanying symptoms of this affection. It is also known that the convulsions are presented when the event is prolonged for more than 25 seconds associated fundamentally to the syncope of neurological etiology.

The relaxation of sphincters is a controversial symptom, since in Cuba many specialists don't relate it with the syncope and if with neurological illnesses of the type of the epilepsies, however expertos⁴³ in the topic affirms that the syncope can accompany of relaxation of sphincters, so much anal as vesical, being this last one much more frequent. In other studies symptoms like the pupilar dilation are picked up, the salivation, the epigastric uneasiness among other that are not picked up estudio.^{25,33} presently

The recovery of the event in most of the cases was made in a spontaneous way, a small proportion of patients required therapeutic measures, as: the oxygen administration, the adoption of supine decubitus in the patients that were of foot, those that were seated placed their heads among the knees to

maintain the flow sanguine maximum general. A specific therapy is not picked up received by this group of patient in the consulted literature.

Most of the relating ones theoretical associated to the thematic one share the previously exposed thing, in such a sense Theodorakis affirms that the patients will loosen all the clothes and the head in a such way will be placed that doesn't block the breathing road. Anything is not administered vocally until having recovered the knowledge, he/she is not allowed to get up until the crisis doesn't cease, mainly, the sensation of physical weakness.

As for the etiología the present study determined that they are really scarce the patients that present syncope of neurological etiología purely. On the other hand it is considerable the number of patients that you/they go to the cardiology consultations for syncope. However the current investigation reveals that the heart structural and functional dysfunctions, they don't constitute the main etiologías of this entity. Being the well-known syncope vasovagal or also well-known as neurocardiogénico, the main agent. The scientific literature in general agrees with these results and he/she is considered that at international level it represents 85% of the casos.^{7,34,44}

Most of the patients presented syncopes of etiología vasovagal. Other less frequent causes those of origin psicogen, neurological, heart, endocrine and by drugs. They were carried out some complementary exams as the evaluation of the glucemia levels and hemoglobin, which stayed in their normal values in most of the cases, that is to say, glucemia between 3.85 and 5.55 mmol/l and hemoglobin between 110g/l and 150g/l.

Other carried out studies were the electrocardiogram, ecocardiogram and electroencefalogram, which were normal in most of the cases.

In countries like Brazil, Spain, Panama among other, they are carried out complementary studies at the moment where fellow men results have been obtained., directly related with the main cause of the syncope (syncope vasovagal), for the diagnosis, of the one which alone it is required of an appropriate interrogation that includes the pathological antecedents so much family as personal and the clinical characteristics of the event ^{3,8,53}

Conclusions:

∅The patients with syncope were in their majority females.

∅The affected age group is located from 6 to 10 years of age.

∅The antecedents pathological more significant personnels turned out to be: the arterial hypertension and the anemia during the pregnancy and the prematuridad, the infections neonatales, contrary to the cardiopatías, the heart arrhythmias and the spasms of the sob.

∅The arterial hypertension and the diabetes mellitus constituted frequent illnesses in the family pathological antecedents.

∅The main accompanying symptoms were the paleness the sudoración, the bradycardia and the hypotension.

∅Most of the patients recovered spontaneously.

∅The complementary ones with diagnostic ends in their great majority were normal.

∅The main cause was the vasovagal.

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