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Original Article

Medico-legal examination of patients with developmental dysplasia of hip treated surgically due to late diagnosis

Mustafa Karakaplan

Inonu University , Faculty of Medicine, Department of Orthopaedics and Traumatology, Malatya, Turkey

Abstract

Aim: Physicians assessing newborns with risk factors for developmental dysplasia of the hip (DDH) have responsibility for early diagnosis. Written records of the fulfillment of such responsibility is required in medico-legal terms. The present study aims to examine the written records of the hospitals where patients with late-diagnosed DDH were born.

Material and Methods: This retrospective study examined the records of the hospitals in which 53 DDH patients aged more than nine months were born. We investigated whether the requirements for the early diagnosis of these patients were recorded in written and interviewed with the obstetricians, pediatricians and family physicians who followed these patients. They were asked about their attitudes toward giving families informational documents about DDH and explaining protective measures verbally.

Results: There was no written approved record that they have been informed about the disease in any institution and indicating that the responsibilities for the early diagnosis of these patients were fulfilled. The families were given informational documents in three of five private hospitals and in one university hospital. All of physicians informed the families about the early DDH diagnosis and the things to do, verbally.

Conclusion: In case of late-diagnosed DDH, the society as well as the child and the child's family get harmed socioeconomically. Therefore, it may pose a medico-legal problem. This risk increases more in countries where newborn screening policies are not adequately implemented. In conclusion, written documents taken from families about the early diagnosis of DDH will legally protect physicians and health care organizations.

Keywords: Neonatal screening; late-diagnosed; medico-legal; DDH.

INTRODUCTION

Developmental dysplasia of the hip (DDH) is the most common musculoskeletal disorder in infants. When three to six-month old babies are diagnosed with developmental dysplasia of the hip (DDH), they are usually treated successfully with conservative methods (1). The most basic steps of early diagnosis are determination of risk factors, clinical and ultrasound (US) examination (2). Before the general use of ultrasound, detection of developmental dysplasia of the hip (DDH) was based on voluntary clinical examinations performed by a pediatrician or an orthopedic specialist at the time when the patient was 3–6 months old. The range of hip abduction and instability were tested with Ortolani and Barlow signs. In cases of unclear diagnosis, radiography of the pelvis was performed (3). Early diagnosis of developmental dysplasia of the hip is very important for proper treatment. Use of ultrasound has reduced the number of late-presenting cases, shortened treatment time, and decreased the number of surgical procedures of the hip joint (4). When DDH is diagnosed after the first six months, the treatment success of conservative methods reduces and additional surgical treatments are required, leading to increased complication rates (5). Besides the baby with DDH and the baby's family, the society also suffers social and economic damage. It is an interesting fact that the late-diagnosis of the children with DDH is the most common cause of lawsuits against pediatricians in musculoskeletal system in United States (6,7). Likewise, it should not be forgotten that the late diagnosis of DDH may pose a medico-legal problem in other country, too.

The term Congenital Dislocation of the Hip (CDH) was replaced by Developmental Dislocation of the Hip in

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Corresponding Author: Mustafa Karakaplan, Inonu University, Faculty of Medicine, Department of Orthopaedics and Traumatology, Malatya, Turkey **E-mail:** karakaplanmb@gmail.com

1989. This was in recognition of the fact that not all cases of pathological hip conditions associated with DDH were present at birth. This opinion has important legal ramifications. If some hip joint conditions that are stable at birth deteriorate and are diagnosed at a later date as an irreducible hip dislocation, they cannot be considered to be 'missed' cases following negative neonatal clinical hip screening by a competent screener. DDH is a dynamic condition in which the hip abnormality may improve or deteriorate with growth (8). The spectrum of presentation varies from hip dysplasia, to reducible subluxation/dislocation and eventually irreducible hip joint dislocation. Due to vaccination and routine check-ups, a newborn baby and his/her mother encounters family physicians, obstetricians and pediatricians more than other physicians. Therefore, these physicians shoulder more responsibilities for the early DDH diagnosis (9).

In the present study, we aimed to retrospectively examine the written records of health care organizations where children with DDH, who were diagnosed late and treated surgically in our hospital. The inadequacies that may pose medico-legal problems were determined.

MATERIAL and METHODS

The study protocol was approved by Inonu University Ethics Committee. The study examined the records of DDH patients aged more than nine months at the time of diagnosis between 2009 and 2015. The study included 53 patients who were surgically treated and of whom the families were contacted. Patients, who were born outside the hospital, had neuromuscular diseases or syndromic DDH were excluded.

Regarding the patients included in the study, the hospital of birth and the status of epicrisis report given by the hospital after birth were questioned. The family physician of the baby was ascertained. Information on ultrasound assessment of the child hips within the first months and the risk factors for DDH gathered. While such information was being taken from the families, any negative expression was not used regarding the health care facilities and physicians who followed-up the patient previously. A positive family history, being the first girl, swaddling, breech delivery, oligohydramnios, metatarsus adductus and torticollis were considered as risk factors for DDH. The families using swaddling were reminded that this is an incorrect practice.

The hospitals where these patients were born were visited. In these hospitals, archival records of the patients included in this paper were studied. The hospital documents related to the early diagnosis of DDH were examined. The inadequacies determined in the records of these hospitals were conveyed to the administrators. Additionally, interviews were made with the obstetricians delivered these patients, and the pediatricians and family physicians followed-up them. It was ascertained from the physicians in these fields that whether they informed the families about DDH verbally or in written.

The Family Physician Information System records were examined. These records were investigated regarding whether the families of these patients were informed in written about the early DDH diagnosis. The status of professional liability insurance of all physicians in this regard was ascertained. Information was given to the family physicians and Provincial Directorate of Public Health, which is in charge of the screening program for the early detection of DDH.

RESULTS

Of 53 study participants, 42 (79%) were females and 11 (21%) were males. The mean duration of diagnosis was 16 (range: 9 to 36) months. Open reduction was performed on 12 (23%) patients with medial approach and 41 (77%) patients with anterior approach. In addition to open reduction, Salter osteotomy was performed on 31 (58%) patients.

Table 1. The hospitals of delivery of the patients with late-diagnosed DDH and their attitudes.

Hospital	Patients	Written Document	Informing the Family Form	Oral Information
University (1)	6	None	Found	Made
Public (4)	32	None	None	Made
Private (5)	15	None	3 Hospitals	Made
Total (10)	53	None	4 Hospitals	10 Hospitals

Of these 53 patients, only nine patients (17%) had undergone ultrasound examination in the early period to assess their hips. The hips of these ultrasound-assessed patients were considered normal. Eleven patients (13%) did not have any risk factor. Other 46 patients (87%) had one or more risk factors. Twenty-one patients (40%) had more than one risk factors. The most common risk factor was swaddling with 35 patients (66%). In this study, we interviewed 25 physicians who delivered and followed the DDH patients; 14 were pediatricians and 11 were obstetricians. Table 1 shows the medicolegal attitudes regarding the early diagnosis of DDH toward the families of the patients included in this study in 10 hospitals where these patients were born.

No written record about the early diagnosis of these patients was identified in the family physician information system. All of the physicians we interviewed had professional liability insurance.

DISCUSSION

Developmental dysplasia of the hip and its natural history is still not well understood. The term encompasses a disease spectrum ranging from a stable hip with a mildly dysplastic acetabulum to complete hip dislocation (3). It is usually not possible for the families to early diagnose this insidious disease that does not cause pain. In

fact, even for pediatricians and pediatric orthopedists, pathologic ultrasound findings may be the only finding helpful in diagnosing the disease, since the findings of the examination are usually negative in the early stages of the disease (10). Hip pathology without instability cannot be diagnosed without the use of an imaging technique. DDH is mostly recovered with conservative treatment when diagnosed within the first months. In case of late diagnosis, surgical treatment is inevitable. The disabilities caused by the late treatment places a great economic burden in addition to its social and psychological effects on the child with DDH, his/her family and the society. Almost 10% of all total hip replacements are performed because of hip disorders of childhood, mostly DDH (4). The cost of early detection programs is lower than the cost of late treatment (11). In some countries with a high incidence of this disease, the incidence has been reduced to reasonable levels through global screening programs (3,12). A key element in those programs has been the use of ultrasound. Hip sonography allows one not only to visualize the cartilaginous parts of the newborn joints but also to observe the hip during motion. The estimated incidence of DDH is 0.5-1.5% in Turkey. Recently, selective screening programs have been started in some regions of our country (9,13). Early detection studies for DDH have been conducted here in our city since 2013. However, it seems that no written records have been kept regarding the DDH screening.

In recent years, there has been an increase in the lawsuits against physicians and the compensations paid in our country due to medical malpractice such as in foreign countries (14,15). In the lawsuit's files, the expert review is conducted through written records. It is the responsibility of the respective physician to make suggestions to the families about protective measures and record such suggestions in written in preventable diseases (14). The maintenance of the available records, in turn, should be ensured by the healthcare facility of the physician (16). The necessity that DDH should be diagnosed and treated early must be explained to every newborn parent. The potential risk factors of the newborn should be established (identified). Necessary information should be given to the families with the risk factors. Finally, all these procedures should be recorded in written and approved form. The families of the children with late-diagnosed DDH may blame the physician as they were not warned about the early diagnosis. In such a case, physicians will justify themselves in front of the judge through the hospital and their own records about the DDH patients. As we mentioned before, if some hip joint conditions that are stable at birth deteriorate and are diagnosed at a later date as hip dislocation, they cannot be considered to be 'missed' cases following negative neonatal clinical hip screening by a competent screener (8). The view that neonatal hip screening is prime importance in the detection of pathological developmental dysplasia of the hip is disputed by some. Jones considered that the sensitivity of examination or screening of the hip in neonates was in the order of 60% with a specificity of 100% in expert hands (17). He was correct in that the clinical assessment of DDH should be considered as 'surveillance' not true screening (18). Therefore, the surveillance process of these patients should be recorded. In the present study, we did not find any written and approved form that belonged to the patients we treated surgically in the hospital and physician records, which can be presented to the court in case of a dispute.

Medical malpractice is described by the World Medical Association as "the physician's failure to conform to the standard of care for treatment of the patient's condition, or a lack of skill, or negligence in providing care to the patient, which is the direct cause of an injury to the patient" (19). Failure to take the necessary precautions regarding a preventable disease is considered as a 'conscious negligence' in our country. In case of a conscious negligence (Turkish Criminal Law, Article 22/3), the penalty imposed for the negligent act is increased from one-third to one-half and public prosecution is initiated without a complaint being filed (20,21). As per the Law No: 5947 enacted in 21/01/2010 in our country, it is mandatory for all physicians to have a professional liability insurance to compensate potential harms due to a medical malpractice (14). All physicians interviewed within the scope of this study had professional liability insurance.

Obstetrics and orthopedics are placed on the top in the lawsuits filed against physicians under the claim of malpractice in our country (19,22,23). In USA, it is interesting that the late-diagnosis of the children with DDH is the most common cause of lawsuits against pediatricians in musculoskeletal system despite the implementation of selective early detection programs for years (6). It should be known that family physicians may also be held responsible for the disabilities caused by the late detection of the disease (14). The respective literature does not contain any study regarding the lawsuits filed due to late-diagnosed DDH in our country.

The obligation of the physician about early detection and protection in DDH patients starts with the birth of the baby. The obstetrician should inform the baby's family and pediatrician about risk factors such as breech delivery and oligohydramnios. The risk factors should be identified together with the pediatrician performing the first examination of the newborn. Additionally, the family should be given information about proper carrying of the baby and not swaddling. Family physicians should ensure that the hips of the babies with risk factors are assessed using ultrasound between the weeks 3 and 6 (9). Given the circumstances of our country, the responsibility is first imposed on family physicians, obstetricians, pediatricians and orthopedists in terms of taking protective measures for DDH and early diagnosis (9,14).

The limitations of our study include its retrospective design, the non-inclusion of the patients treated with nonsurgical methods who had abnormal hip ultrasonography in

the early period and the low number of hospitals and physicians. We believe that broader studies that are planned in a prospective manner and aimed at increasing the knowledge and sensitivity of the respective physicians are required. We also believe that the respective physicians should be medico-legally informed and given professional support in all DDH-related matters along with early DDH screening programs in countries where this disease is very common.

CONCLUSION

The early diagnosis and treatment of DDH substantially reduces disability rates. It should be known well that the disabilities due to the late diagnosis of DDH cause damage to the child and his/her family as well as their society in socioeconomic terms. In order not to have medico-legal problems, the physicians assessing newborns should assess the hips of all risk-group babies through examination and US. They should also provide written and verbal information to the patient's family. They should keep regular and meticulous records for the procedures they perform and the suggestions make to the patient's relatives.

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Mustafa Karakaplan ORCID: 0000-0001-9035-0319

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