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Original Research Article

Retrospective study on maternal outcome in referred obstetric patients in government Doon medical college

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ABSTRACT

Background: The referral system forms an integral component of any health care system, for providing essential obstetric care to women during pregnancy and childbirth. The study was conducted with an objective to identify the pattern of obstetric referrals to Doon female hospital, government Doon medical college, primary reason for referral, delay in referral, clinical course, mode of management and outcome.
Methods: It is a retrospective observational study. All the referred obstetric cases were analyzed for the cause of referral, place of referral and outcome for the period of 6 months from October 2021 to march 2022.
Results: In our study we found total 486 obstetric patients were referred. Maximum referred patients were in the age group of 20-30 years and 61% referrals were from Dehradun district 12.96% of cases were delayed referrals.
Conclusions: Our study revealed that illiteracy and ignorance is the major factor that contributes to poor pregnancy outcome. Need of the hour is to train health care workers at primary and secondary health care center in essential and emergency obstetric care so as to avoid unnecessary referrals and reduce burden on tertiary health care hospitals and decrease in the frequency of delayed referrals so as to improve the maternal and fetal outcome.

Keywords: Referred patients, Illiteracy, Health care workers

INTRODUCTION

The referral system is an essential component of any health care system, for providing essential obstetric care to women during pregnancy and childbirth.[1] Pregnancy and child birth, though physiological processes, are not free of risks. Despite continuous efforts by government and NGOs, maternal and neonatal mortality remains high in our country. Maternal mortality rate in India is 103/100,000 live birth according to recent data as released on 14 march 2022. While MMR has worsened in states like Uttarakhand (101/100,000 live birth). The targeted SDG by United Nations aims at reducing the global maternal mortality rate to 70 per one lakh live birth.

Most of the premature deaths can be prevented, the available medical technology has the potential of preventing more than 95% of all maternal deaths and infant deaths. Most common reason why this potential could not be realized is that the health care delivery system is not able to deliver even the low-cost appropriate medical technology to all pregnant women and children.

Poor or broken-down health system hinder the progress of maternal mortality reduction and lead to high maternal deaths among mothers due to complications of pregnancy and childbirth.

The key factors contributing the adverse maternal outcomes are lack of trained birth attendants, lack of education, low status of women in society, poor families, financial dependency of women, and delay in seeking medical treatment.[2] Due to lack of awareness and absence of regular antenatal care, the critically ill patients are referred late and sometimes in moribund conditions with multiple organ damage. Timeliness and appropriateness of referral is an important factor in the ultimate outcome of the patients. Linking the primary, secondary and tertiary

levels of care are an essential element of primary health care. A referral system offers women some degree of health care at every level of health care system while linking the different levels through an established communication transport system.[3] Primary care services are incomplete if they lack appropriate and efficient referral systems to secondary and tertiary care hospitals. primary health centers form the back bone of the public health system in rural India.[4]

Study conducted with the objective to identify the pattern of obstetric referrals to Doon female hospital, government Doon medical college and explore, main reason for referral, reasons for delay in referral, clinical course, mode of management and outcomes of referred patients.

METHODS

Study type

The study was of retrospective study.

Study centre

Study conducted at department of obstetrics and gynaecology, government Doon medical college, Dehradun.

Study population

Obstetric referral from within and outside Dehradun district population were included in the study.

Study duration

Study carried out for 6 months (October 2021-March 2022).

Selection criteria of the patients

Inclusion criteria

We included all referred antenatal and postnatal patients to our tertiary care institute.

Exclusion criteria were all gynecological cases.

Data collection

The retrospective data was derived from medical records of the said study period and included: detailed history, examination findings, investigations and referral details. The data included, whether patient was booked at any health care center or never had any antenatal visit; time taken for the patient to reach tertiary center from primary health center was noted; maternal outcome in terms of mode of delivery (vaginal, caesarean), ICU admission, mortality and its cause. All data compiled and analyzed. Study approved by institutional ethics committee.

Statistical analysis

The qualitative and quantitative data were analyzed using SPSS and Microsoft excel.

RESULTS

The study included 486 obstetric referral cases during six months duration. Total obstetric admissions were 3535 during this period. So, referred cases accounted for 13.7% of total admissions in our tertiary hospital. We observed that, most case referred to GDMC were in the age group of 31-40 years, followed by older than 40 years (Figure 1); most of them were para 1 (Figure 2). It was seen that most common indication for referral to our centre was further management for previous LSCS (Figure 3); the referred cases were mainly from Dehradun city, followed by periphery of Dehradun (Figure 4). The reason for delay in referral which stood out was transportation delay (Figure 5). Among the referred cases the most common outcome was LSCS followed by vaginal delivery, and 98.7% of them were discharged after management as the final outcome (Figure 6 and 7). Interestingly, despite GDMC being a tertiary healthcare centre, we observed that most patients were referred directly to our centre from the previous centre (Figure 8).

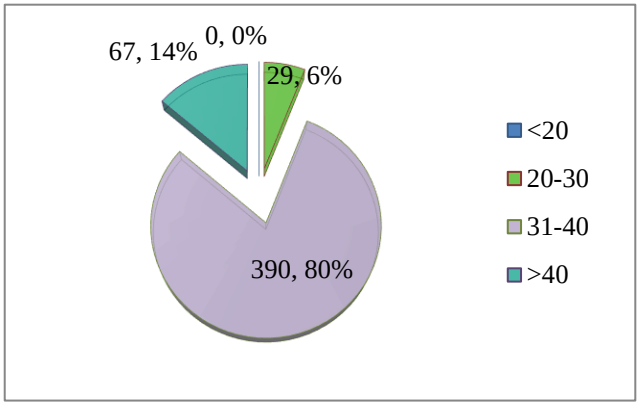

Figure 1: Distribution of cases according to age group.

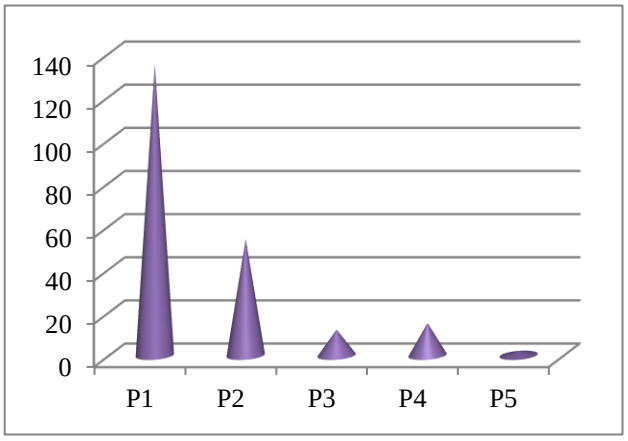

Figure 2: Distribution of patients according to parity status.

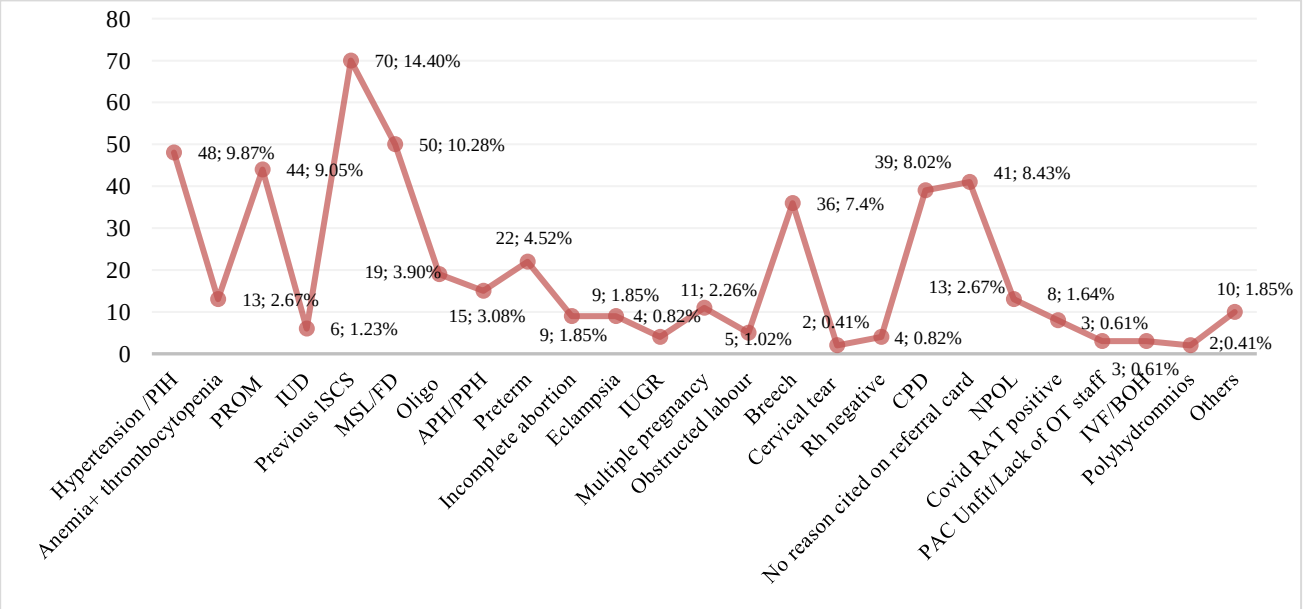

Figure 3: Distribution of cases according to reason for referral.

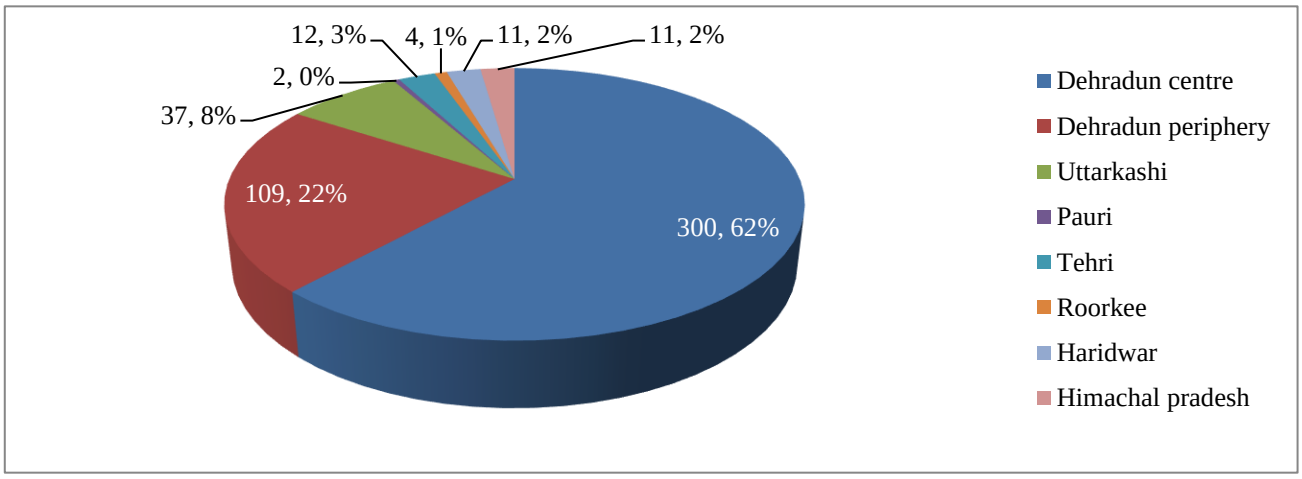

Figure 4: Distribution of cases according to referral center.

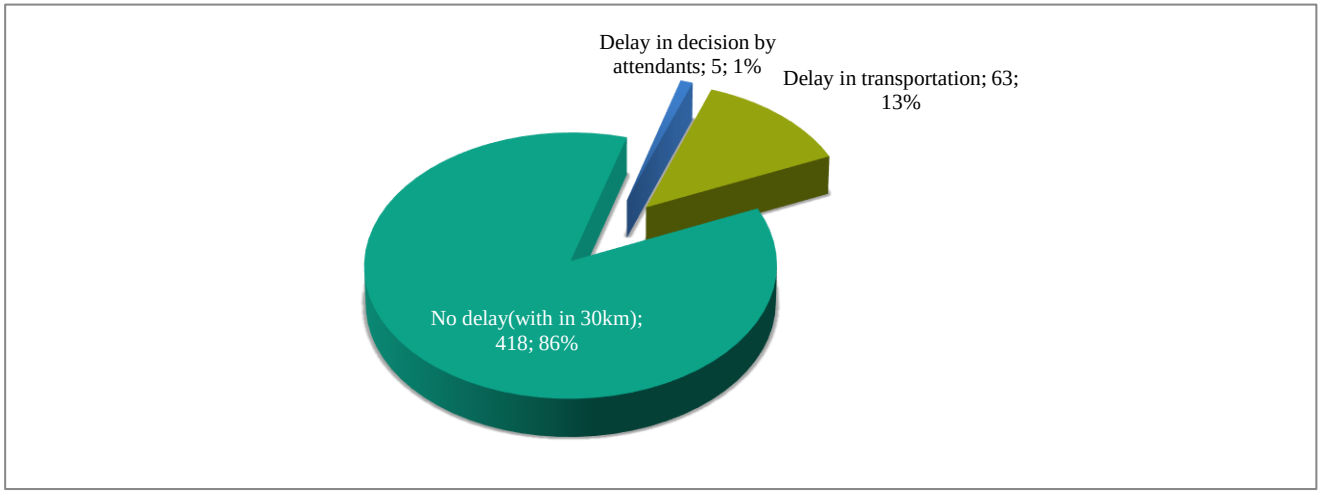

Figure 5: Reasons for delay in referral.

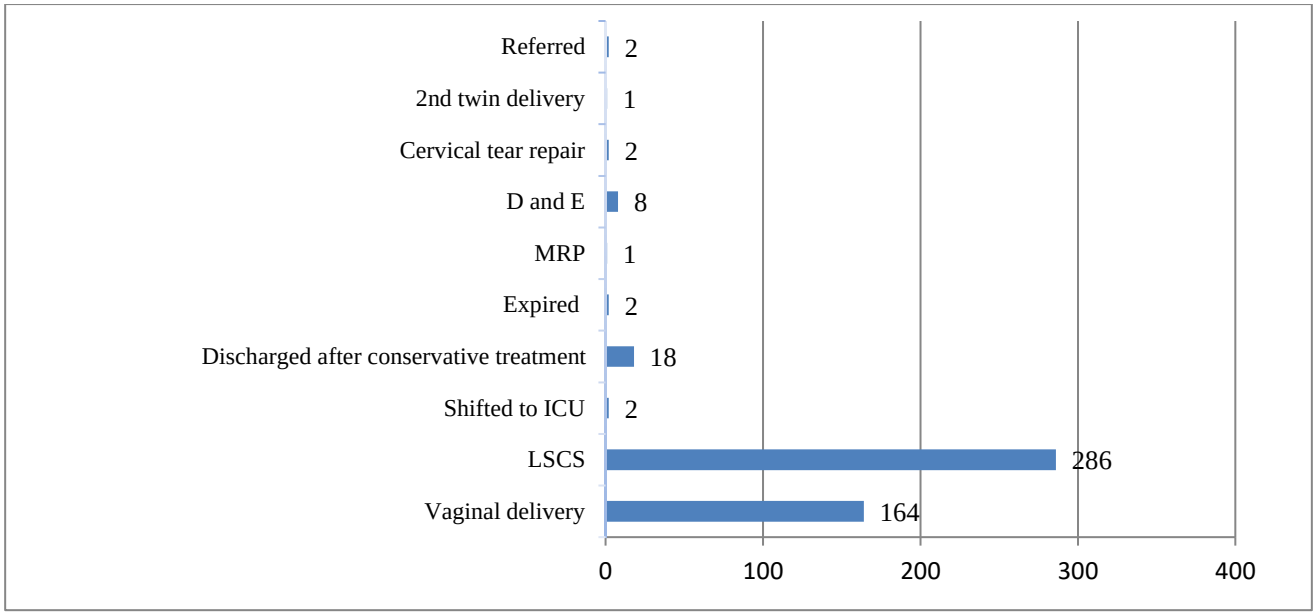

Figure 6: Maternal outcome.

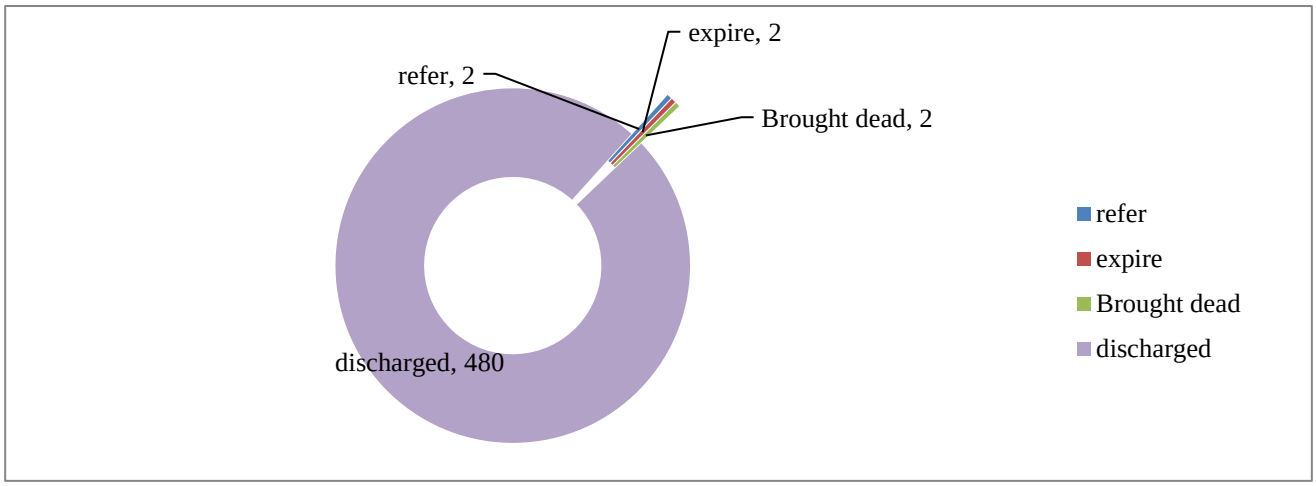

Figure 7: Final outcomes.

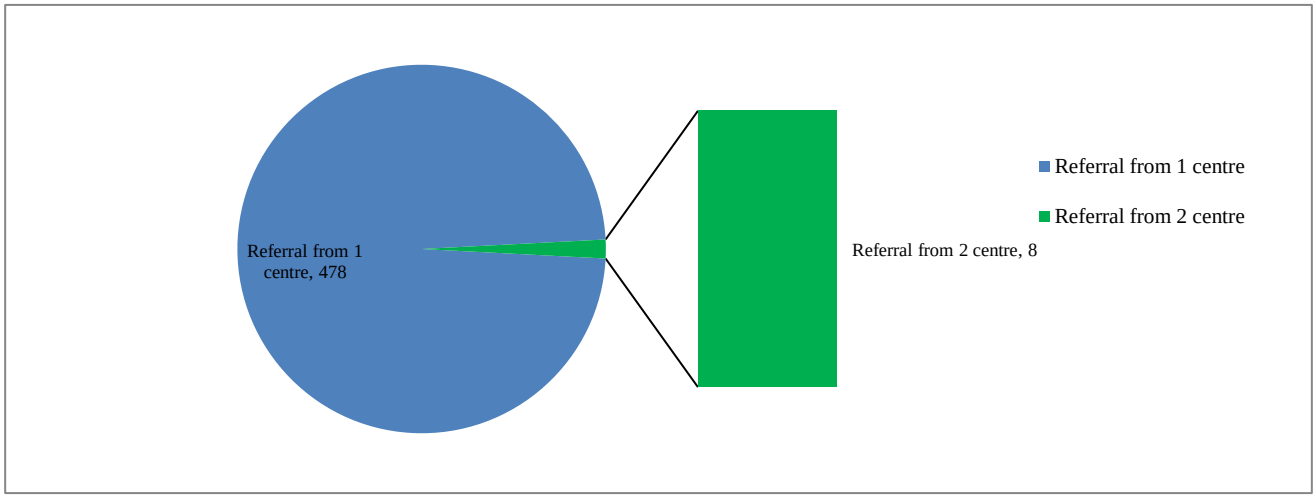

Figure 8: Number of referral centre patient went through before reaching GDMC.

DISCUSSION

The study includes 486 obstetric referral cases during six months duration. Total obstetric admissions were 3535 during this period. So referred cases accounted for 13.7% of total admissions in our tertiary hospital. The percentage of referred cases in our study is much lower than other studies like study done by Gupta et al showed 15.37% obstetric referrals.[5] Similarly, study by Sable and Patankar in Pandya and Patel reported referral rate of 17.83% and 14.02% respectively.[6,7]

Socio-demographics of group of referred patients

In the present study, most patients were in the age group of 31-40 years i.e., 80.02%, which is interestingly different from previous studies (Figure 1). Gupta et al reported that 86.98% in the age group of 21-30 years.[5] Jakhar et al also reported 713 (70.3%) were in the age group of 21-30.[8] Devneni and Sodumu also reported 73% of patients in age group of 21-30.[9] Study by Pandya and Patel also reported that 64% referred cases belonged to age group of 21-30 years.[7] This difference can be attributed to difference in demographics, level of industrialization, delayed marriages in the current era, rise in patient awareness and better execution of family planning measures.

Parity of referred patients

In our study, 269 patients (55.34%) were para 1 (Figure 2) this is comparable to study conducted by Gupta et al in 2016, found 52.17% of patients were primigravida.[5]

Reasons for referral

In our study, majority of patients were referred due to previous history of LSCS (Figure 3). Other common causes were MSL/fetal distress (10.28%), PROM (9.05%), breech (7.4%) cause of referral not mentioned/unnecessary referral (8.43%). Gupta et al reported that majority of cases were referred for anemia (18.05%), hypertensive disorder (22.27%) and malpresentation (15.19%).[5]

Referring centre

In our study we observed that despite being a tertiary centre most patients were referred by just one centre before reaching us (Figure 8). Most of these cases were referred from other centres of Dehradun city followed by Dehradun periphery, followed by Uttarkashi (Figure 4). The findings are similar to those by Jakhar et al who also found that at their centre, majority of cases were referred from CHCs (51.7%), next from district hospitals (22.68%), PHCs (10.94%), sub centres 27 (2.66%) and only 9 cases (0.88%) were referred from private hospitals and clinics.[8]

Reasons for delay in referral

Our centre is in the capital of Uttarakhand and caters patients coming from remote mountain areas, thus the reason for delay in referral which stands out is delay in transportation (Figure 5). This is different from other studies like Pacagnella et al who reported that most common factor for delay was inadequate prenatal care, which was present in more than 30% of cases.[10] Since the quality of antenatal care is influenced by health education and facilitates the use of emergency obstetric care, antenatal care is crucial in promoting obstetric care and was seen to be most important factor in other studies internationally. [11,12] The government health policies in India and presence of ASHA (Accredited social health activist) as a great grassroot worker has helped cover these delays in our country.

It has been seen that many cases were already in critical clinical state when they arrived at the facility due significant delays.[13-18] Although health programmes like Janani Suraksha Yojna have helped improve ANC care but delays due to transportation specially in our region still presents a challenge which cannot be ignored and warrants attention.

Limitations

The study is a single-centre study and hence the findings can not be generalized for the region. Furthermore, the findings are based on retrospective data hence follow up and detailed description of long-term outcomes could not be assessed.

CONCLUSION

Barriers in maternal referral system can be summarized into two main factors: healthcare system and patient factors. Healthcare system factors are related to accessibility of health facilities and the inability of health providers to manage patient conditions or to refer patients appropriately, while patient factors are related to patient considerations or decision to follow the referral which are often related to socioeconomic or cultural factors. Barriers from the healthcare system include transportation, communication, quality of care, referral documentation, standard and monitoring, and network infrastructure. Barriers from patients include environments, knowledge about the referral, poverty, health status of the mother, and culture.

Referral is a coordinated movement of healthcare seekers through the health system to reach high level of health care centre. Coordination between healthcare providers at grassroot level to tertiary care centre is the need of hour. Timely referrals with detailed referral slips or prior information of referred cases might help in early and optimal intervention so that both major morbidity and mortality can be avoided. Some developing countries have used technologies to improve maternal and neonatal healthcare, including referral. These technologies are mobile technologies and call centers, to assist healthcare workers in identifying cases of complications in pregnant women, with referral as needed.

The use of technologies should also be used to monitor the effectiveness of the referral. For example, the Sistem Informasi Jejaring Rujukan maternal and neonatal (SIJARIEMAS) referral exchange system in Indonesia provides a feature to monitor referral communication that can be done by PSC call center staff or health office staff.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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