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ORIGINAL ARTICLE

Attitude changes toward chronic pain management of pain physicians in Turkey during the COVID-19 pandemic

Türkiye'deki algolog hekimlerin, COVID-19 pandemi döneminde kronik ağrı tedavisindeki tutum değişiklikleri

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Summary

Objectives: The coronavirus disease 2019 (COVID-19) pandemic has led to a decrease or interruption of outpatient and elective interventional procedures of patients with chronic pain worldwide. This study aims to investigate the attitude changes of pain physicians in Turkey in the treatment of chronic pain patients and the compliance of these changes with the published guidelines.

Methods: A total of 113 pain physicians were sent an online questionnaire forms to be completed voluntarily.

Results: The questionnaire was completed by 61% (n=69) of the total physicians to whom it was sent to. The rate of physicians who did not request the COVID-19 polymerase chain reaction test from their patients before any interventional procedure was 48% (n=33). The rate of physicians who ignored the immunosuppressive effect and while prescribing opioids and did not reduce the opioid dose was 42% (n=29). The rate of physicians who did not reduce the corticosteroid dose they used in their interventional procedures was 61% (n=42). It was determined that 49.1% (n=28) of physicians who applied facet joint medial branch radiofrequency denervation (RFD) during the pandemic period decreased the number of diagnostic blocks they applied compared to the pre-pandemic period. It was found that 51% (n=24) of the physicians who applied genicular nerve RFD during this period did not perform any diagnostic blocks.

Conclusion: It was found that the majority of physicians did not change their preferences in the dose and/or type of opioid and corticosteroid drugs, but they tended to reduce the number of diagnostic blocks they applied before facet joint medial branch/genicular RFD procedures.

Keywords: Chronic pain; coronavirus disease 2019; pain management; pain physician; pandemic; radiofrequency ablation.

Özet

Amaç: Koronavirüs hastalığı (COVID-19) pandemisi bütün dünyada kronik ağrı hastalarının ayaktan tedavi ve elektif girişimsel prosedürlerinin azaltılmasına veya kesintiye uğratıl-masına neden oldu. Bu çalışmada, pandemi döneminde Türkiye'deki algolog hekimlerin kronik ağrı hastalarının tedavilerindeki tutum değişiklikleri ve bu değişikliklerin yayımlanan kılavuzlara uygunluklarının araştırılması amaçlandı.

Gereç ve Yöntem: Türkiye'de çevrim içi olarak ulaşım sağlanabilen 113 algoloji hekimine isteğe bağlı doldurulmak üzere anket gönderildi.

Bulgular: Anketin ulaştırıldığı ağrı hekimlerinin %61'i (n=69) anketi cevapladı. Hiçbir girişimsel işlem öncesi hastalarından COVID-19 polimeraz zincir reaksiyonu testi istemeyen hekimlerin oranı %48 (n=33) idi. Opiyoid reçetelerken immünsüpresif etkiyi önemsemeyen ve opiyoid dozunu azaltmayan hekimlerin oranı %42 (n=29) idi. Girişimsel işlemlerde uyguladıkları kortikosteroid dozunu azaltmayan hekimlerin oranı %61 (n=42) idi. Pandemi döneminde faset eklem median dal radyofrekans denervasyon uygulayan hekimlerin %49,1'inin (n=28) pandemi öncesine göre uyguladıkları tanısal blok sayısını azalttığı belirlendi. Bu dönemde geniküler sinir radyofrekans denervasyon uygulayan hekimlerin %51'inin (n=24) hiç tanısal blok uygulamadıkları tespit edildi.

Sonuç: Ülkemizdeki ağrı hekimlerinin çoğunun pandemi döneminde kronik ağrı hastalarının tedavisinde kullandıkları opiyoid ve kortikosteroid ilaçların doz ve/veya türlerindeki tercihlerini değiştirmedikleri ancak faset eklem median dal radyofrekans denervasyon/geniküler sinir radyofrekans denervasyon girişimleri öncesi uyguladıkları tanısal blok sayılarını azaltma eğiliminde oldukları saptandı.

Anahtar sözcükler: Ağrı hekimi; ağrı yönetimi; COVID-19; kronik ağrı; pandemi; radyofrekans ablasyon.

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Introduction

The coronavirus disease 2019 (COVID-19) pandemic has caused health-care services all over the world to focus on the treatment and prevention of the spread of the infection. Outpatient services and elective interventional procedures for chronic pain have decreased or have been interrupted.[1] With the prolongation of the pandemic, guidelines on the diagnosis and treatment of chronic pain have begun to be published. Guidelines recommend that interventional procedures should only performed in urgent and semi-urgent cases during this period, and that patients risk assessment should be performed for COVID-19 before the interventional procedure and patients with symptoms or high infection risk should be applied diagnostic COVID-19 polymerase chain reaction (PCR) test.[2,3]

Opioids and corticosteroids used in the treatment of chronic pain are known to have immunosuppressive effects.[3] International pain associations have warned physicians in guidelines published during the pandemic that patients may be more susceptible to COVID-19 and other secondary infections while using opioid analgesics.[3] The American Association of Interventional Pain Physicians (ASIPP) and many other international associations state that more selective action should be taken in the administration of corticosteroids. In addition, some studies have also recommended lower dosages of steroids.[2–4] There are publications reporting that radiofrequency denervation (RFD) application is a safe practice in the treatment of interventional pain during the pandemic.[5]

This study aims to investigate the attitude changes of pain physicians in Turkey in the treatment of chronic pain patients and the compliance of these changes with the published guidelines.

Material and Methods

Study Design

This was a prospective observational study.

Setting

This study obtained ethics approval from the Clinical Research Ethics Committee (Date: February 2, 2021; No. 2021–2/4). A voluntary online questionnaire was sent to 113 pain physicians between February 15, 2021 and March 15, 2021 (Table 1). The questionnaire consisted of questions in multiple-choice and check-box format.

Participants

One hundred and thirteen pain physicians were informed about the purpose and context of the questionnaire before it was sent. Personal information such as name and surname was not requested from the participants.

Study Size

Sixty-nine completed online questionnaires were evaluated at the end of the specified period.

Statistical Analysis

Statistical analysis of the data was conducted using the "Statistical Package for the Social Sciences version 24" (SPSSv.24) program and the "e-PICOS" program was used for calculations based on "Medicres Good Biostatistical Practice." Descriptive statistics were used for categorical variables and frequency calculations were expressed as percentage. Chi-square test was used for comparisons. $P<0.05$ was considered statistically significant.

Results

The questionnaire was completed by 61% (n=69) of the physicians. It was determined that 97% (n=67) of the participants applied at least one of the recommendations published in the guidelines for pain management during the COVID-19 pandemic (Fig. 1). The guidelines that were followed most were the guidelines published by American Society of Regional Anesthesia and Pain Medicine (ASRA) and European Society of Regional Anaesthesia and Pain Therapy (ESRA) (53.6%).

It was found that 48% of the pain physicians did not request COVID-19 PCR test from patients before any interventional procedure (Table 2). Among the participants, 33.3% (n=23) stated that they preferred opioids with less immunosuppressive effects while prescribing opioids to their patients, 20.3% (n=14) reduced the opioid dose if possible, 4.3% (n=3) stated that they preferred opioids with less immunosuppressive effects and also reduced the opioid dose, 42% (n=29) did not reduce opioid dosage and disregarded the immunosuppressive effect when prescribing opioids.

Table 1. Questionnaire of chronic pain management during the COVID-19 pandemic for pain physicians in Turkey

1. Which published guidelines or recommendations of guidelines do you follow for the management of pain during the pandemic?
   ASRA: American Society of Regional Anesthesia and Pain Medicine
   ESRA: European Society of Regional Anaesthesia and Pain Therapy
   ASIPP: American Society of Interventional Pain Physicians
   AAPM: American Academy of Pain Medicine
   Turkish Society of Algology
   All
   None
   Other
2. Which COVID-19 PCR test protocol do you apply before interventional procedures during the pandemic?
   Hospital/Personal protocol
   I request PCR tests before every procedure
   I request PCR tests before head-neck interventions
   I do not request PCR tests before any procedures
3. When prescribing opioids during the COVID-19 pandemic, do you take immunosuppressive effect into consideration by preferring opioids with less immunosuppressive effect? Do you try to reduce medication dosage?
4. Have you reduced the dose of corticosteroids used for interventional procedures during the pandemic?
5. Have you used corticosteroids in peripheral nerve blocks, joint injections, epidural steroid applications, and facet joint medial branch block applications during the pandemic?

If so, have you changed the corticosteroid dose compared to the period before the pandemic?
   I did not use corticosteroids during the pandemic
   I apply the same corticosteroid dose as before the pandemic
   I increased the corticosteroid dose
   I reduced the corticosteroid dose

6. Have you performed facet joint medial branch and genicular nerve radiofrequency denervation (RFD) during the COVID-19 pandemic?
7. How many diagnostic blocks do you apply before lumbar/cervical facet medial branch and genicular nerve RFD during the pandemic?
8. Has there been a change in the number of diagnostic blocks you apply before facet joint medial branch RFD during the pandemic compared to the period before the pandemic?
   Increase
   Decrease
   Same number
9. How many diagnostic blocks would you normally apply before knee genicular nerve RFD before the pandemic?

RFD: Radiofrequency denervation; PCR: Polymerase chain reaction.

According to the results, 61% (n=42) of the pain physicians stated that they did not reduce the dosage of corticosteroids. It was found that the highest rate of steroid dose reduction during the pandemic was applied in joint injections as 23.3% (n=16) (Fig. 2). It was determined that 83% (n=57) of the pain physicians applied facet joint medial branch RFD, while 68% (n=47) applied genicular nerve RFD. The rates of diagnostic blocks applied before lumbar/cervical facet medial branch and genicular nerve RFD by the pain physicians participating in our study are presented in Table 3. It was determined that 50.9% (n=29) of the physicians who applied facet joint medial branch RFD during the pandemic period did not change the number of diagnostic blocks they applied before RFD compared to the pre-pandemic period, and 49.1% (n=28) reduced the number of diagnostic blocks they applied compared to the pre-pandemic period.

There was no significant difference between those who changed and did not change steroid dosage in terms of changing the number of diagnostic blocks

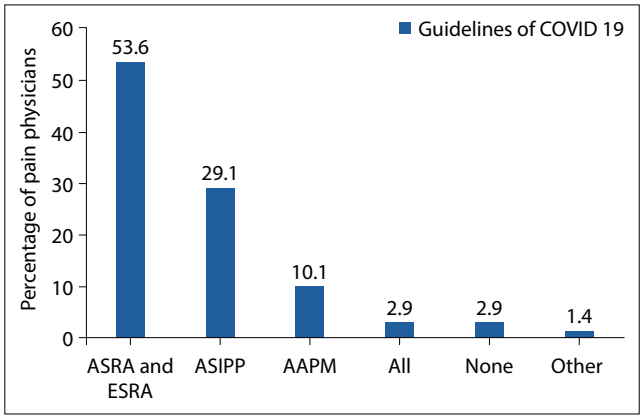

Figure 1. Rates of pain physicians applying published guidelines for the COVID-19 pandemic.

ASRA: American Society of Regional Anesthesia and Pain Medicine; ESRA: European Society of Regional Anaesthesia and Pain Therapy; ASIPP: American Society of Interventional Pain Physicians; AAPM: American Academy of Pain Medicine.

before RFD (p=0.077). While 45% (n=31) of physicians stated that they did not apply any diagnostic blocks before genicular nerve RFD before the pandemic, this rate was 51% (n=24) during the pandemic (Fig. 3). There was no statistically significant difference between the number of diagnostic blocks applied before RFD before and during the pandemic (p=0.103).

Discussion

Our study is the first to evaluate the changes made by pain physicians in the management of patients with chronic pain in our country during the COVID-19 pandemic and the compliance of these changes with the published guideline recommendations. It was found that 48% of the participants did not request the COVID-19 PCR test from their patients before any interventional procedure, the vast majority did not change their preferences in terms of dosage and/or type of opioid and corticosteroid drugs, but they tended to reduce the number of diagnostic blocks they applied before facet joint medial branch/genicular nerve RFD interventions.

There are guideline recommendations for requesting diagnostic COVID-19 PCR tests for chronic pain patients before interventional applications during the pandemic. The joint guidelines published by ASRA and ESRA recommend that patients should be screened for COVID-19 before all planned face-to-face interviews and interventional procedures, and those who are at high risk of COVID-19 must undergo diagnostic tests,[3] whereas ASIPP recommends that patients who exhibit COVID-19 symptoms within the past 14 days before interventional procedures should undergo diagnostic PCR test while COVID-19 PCR tests should be requested according to the general health status and presence of comorbid diseases in asymptomatic patients.[2] According to the "Recommendations for Starting Elective Surgeries During the Normalization Period of the COVID-19 Pandemic" published by the Turkish Society of Anesthesiology and Reanimation, it recommends ensuring two negative COVID-19 PCR test results within the past 5 days in all non-urgent patients undergoing elective surgery, according to the institution's test capacity.[6] Despite the recommendations of international/national guidelines, only 42% of the pain physician who participated in our survey stated that they requested COVID-19 PCR test from their patients before any interventional procedures. The ratio of physicians who requested COVID-19 PCR test to those who did not was 1.09 (52/48). It was demonstrated that the majority of the pain physician who participated in our questionnaire did not request PCR test before most interventional procedures due to the conditions and decision of the institution they were affiliated with. We believe that PCR test should

Table 2. Rates of pain physicians requesting COVID-19 PCR tests before interventional procedures

Test request	Hospital-specified protocol		Protocol specified by the pain clinic or physician-specified protocol	
	n	%	n	%
Before all interventional procedures	23	33	6	9
Only before head-and-neck interventional procedures	2	3	5	7

PCR: Polymerase chain reaction.

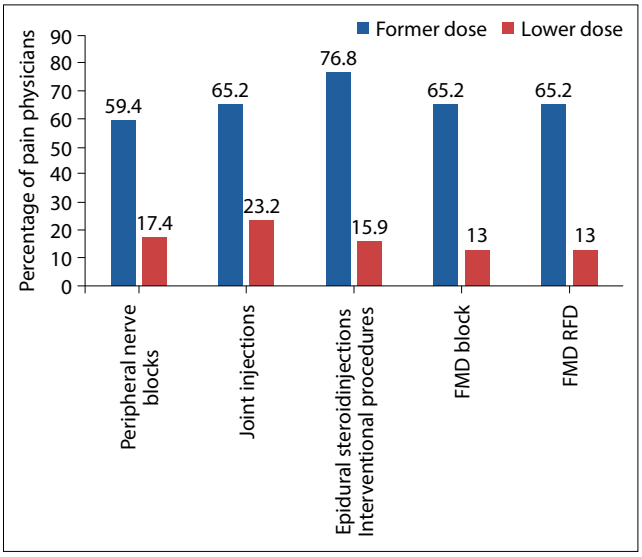

Figure 2. The rates of pain physicians who reduced or did not change the steroid dose they use in their interventional procedures compared to the pre-pandemic period.

FMD: Facet medial branch; RFD: Radiofrequency denervation.

be requested before every intervention, considering that the field where interventional procedures are performed consists of not only the physician but a team of health-care personnel.

Although the immunosuppressive effects of opioids are well known, it is stated that they differ in terms of their effects on the immune system and that morphine and fentanyl are the most immunosuppressive options.[7] The lack of randomized controlled trials showing the immunosuppressive effects of exogenously administered opioid analgesics and the demonstration that endogenous opioid peptides are secreted by immune cells have complicated the understanding of the effects of opioids on the immune system.[8,9] A review of opioid therapy and its side effects reported that chronic pain itself can cause immunosuppression and that opioid therapy does not provide adequate pain palliation as it loses its benefit due to its immunosuppressive side effects.[10] The guidelines published during the pandemic recommend not making any dosage changes in ongoing opioid treatment regimens in the absence of significant changes in pain and/or function.[3] It was determined that 62% of the pain physicians participating in our survey disregarded the immunosuppressive effects of opioids when prescribing them during the pandemic period and 75% did not reduce the dosage. In the literature, we did encounter any research examining the rate of COVID-19 infection in patients with chronic pain who received opioid treatment during the pandemic. We believe that the physicians participating in the study did not change the dose of opioid treatments in accordance with the guideline recommendations and paid more attention to achieving adequate pain palliation in patients with chronic pain. We believe that retrospective studies examining the rates of COVID-19 infection in patients treated with appropriate opioid doses during the pandemic may provide guidance in the future.

Physicians who are involved with managing chronic pain use corticosteroids for many interventional procedures, including epidural and intra-articular injections. One study demonstrated that the use of major intra-articular corticosteroid injections increased the risk of flu.[11] Another study showed increased immunosuppression and increased risk of influenza in the early period after steroid administration and in high dose steroid applications.[12] Although there is insufficient evidence on this subject, many guidelines recommend reducing the steroid dose.[2–4] It was determined that 61% of the physicians who participated in our study stated that they did not reduce the steroid dosage applied in interventional procedures during the pandemic. We believe that randomized controlled studies investigating the effects of steroid doses applied in interventional procedures on the

Table 3. Number of diagnostic blocks applied before lumbar/cervical facet joint medial branch and genicular nerve radiofrequency by pain physicians during the pandemic

Number of blocks	Lumber FMD		Cervical FMD		Genicular RFD	
	n	%	n	%	n	%
Never	21	37	24	42	24	51
1	32	56	29	51	21	45
≥1	4	7	4	7	2	4

FMD: Facet medial branch; RFD: Radiofrequency denervation.

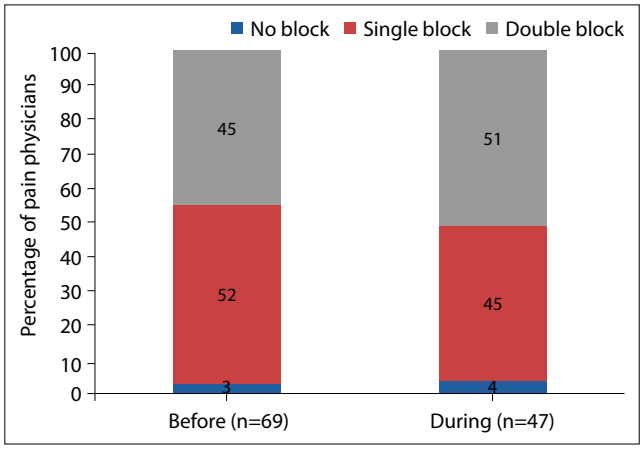

Figure 3. Number of diagnostic blocks applied before knee genicular nerve radiofrequency denervation by pain physicians before and after the pandemic (p=0.103).

risk of COVID-19 infection will answer questions related to this subject.

It is known that the number of diagnostic blocks before RFD, one of the selection criteria for patients, varied considerably among physicians who treat pain before the pandemic.[13] There are no recommendations regarding the number of pre-RFD diagnostic blocks in the guidelines published during the pandemic. According to the literature, increasing the number of diagnostic blocks increases the rate of false negativity and the patients who may benefit from RFD treatment carry the risk of being deprived of this treatment.[14] The National Institute for Health and Care Excellence guidelines for back pain recommend a single diagnostic block before lumbar facet joint medial branch RFD treatment.[15] One retrospective study reported that pain was resolved 12 months after RFD in 64% of 44 patients who underwent cervical facet joint medial branch block RFD after a single diagnostic block.[16] A systemic review of the literature by Engel et al.[17] demonstrated that selecting patients with triple or double placebo-controlled medial branch blocks before cervical facet joint medial branch RFD treatment provide a greater reduction in pain. According to the results of our questionnaire, 56% of pain physicians applied facet joint medial branch RFD during the pandemic stated that they performed a single diagnostic block before lumbar facet medial branch RFD application and 52% before cervical facet medial branch RFD. It was observed that 49% of the physicians who applied facet medial branch RFD during the pandemic period stated that they decreased the number of diagnostic blocks compared to the pre-pandemic period. We believe that prospective studies will determine the effectiveness of the treatment in patients in whom the number of diagnostic blocks is increased or decreased.

A randomized controlled study conducted before the pandemic showed that diagnostic genicular nerve block application before genicular nerve cooled RFD was not effective in increasing the success of RFD.[18] In our study, it was found that 51% of the physicians did not apply diagnostic nerve block before genicular nerve RFD during the pandemic. There is no information in the literature regarding the number and efficacy of applying diagnostic block before genicular nerve RFD. We believe that further randomized controlled studies examining the effect of the number of diagnostic blocks on the success of genicular nerve RFD are warranted.

One of the limitations of our study was only 61% of the pain physicians who were invited to participate completed the questionnaire. We believe that the results of studies with higher study participation will be better interpreted.

Conclusion

The results of our questionnaire indicate that the majority of pain physicians in our country follow the recommendations of at least one of the guidelines published during the pandemic period. The most of the pain physicians disregard the immunosuppressive effects while prescribing opioids do not reduce the dose when prescribing opioids and steroids, do not request COVID-19 PCR test before interventional procedures, and tend to reduce the number of diagnostic blocks applied before RFD interventions. To provide more concise recommendations in guidelines, we believe that randomized controlled studies are needed to investigate the effect of drugs and doses applied during the pandemic period and the number of diagnostic blocks before RFD on the risk of COVID-19 infection. We believe that determining the attitude changes of the physicians toward chronic pain management during the pandemic will provide guidance for research on proper planning during this period.

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