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Boston
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June 18–June 21

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Title: Association Of Ischemia Time
And Serum Lactate Levels With
Postoperative Pain In Primary Total Knee
Arthroplasty At The Orthopedics And
Traumatology Service At The Unidad
Médica De Alta Especialidad No. 1 Bajío.

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Disclosures:

I have no conflict of interests



introduction.

- This study observed and described one of the most frequent complications associated with the use of ischemia in orthopedic surgery which is postoperative pain and as well has been studied enough about whether to use it or not, there is an important learning gap in terms of ischemia, times to be used or the types of partial ischemia that in some recent studies has been controversial results or worthy for discussion



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Objectives

- To determine the association between the time of total use of ischemia in total knee arthroplasty and postoperative pain at 6 and 24 hours postoperatively, associating it with increased serum lactate

Specific objectives:

Know the average time of use of ischemia in TKR

To determine the average pain in postoperative patients at 6 and 24 h

Determine the increase in serum lactate levels at 6 and 24 h

Determine the quality of pain during the first postoperative day



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Methods and materials

- Once the project was approved by the research and ethics committee of the hospital
- a prospective, comparative, observational, cross-sectional study was carried out in the corresponding period from April to October 2021 in the orthopedic service of the UMAE N°1 León, Guanajuato.
- Convenience sampling was used at discretion with selection criteria: patients of any sex, age over 18 years of age, who will undergo a primary total knee arthroplasty without distinction of the side that had a complete presurgical protocol,
- the non-inclusion criteria were: show an absolute contraindication for surgery or not have a presurgical protocol, patients who do not accept TKR, patients with revision surgeries, patients with active infections



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Results

- In total, 98 patients participated, 60 women and 38 men (61.2% and 38.8% respectively) the median age of the sample was 66.0 years.
- A predominance of unilateral gonarthrosis was observed, both right (50.0 %), and left (46.9 %), 2 patients presented bilateral gonarthrosis (2.0 %), and one presented with fracture sequelae (1.0 %)
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- A correlation test was performed using Spearman's ρ between ischemia time and pain experienced at 6 and 24 hours; At 6 hours a statistically significant correlation was not obtained ($p = 0.456$, $\rho = -0.076$), however, at 24 hours the result showed a statistically significant positive correlation ($p < 0.001$, $\rho = 0.463$)
- correlation tests using Spearman's ρ between ischemia time and serum lactate levels were performed; At baseline, the correlation test was not statistically significant ($p = 0.098$, $\rho = 0.168$), however, at 24 hours this correlation turned out to be statistically significant positive ($p < 0.001$, $\rho = 0.532$)
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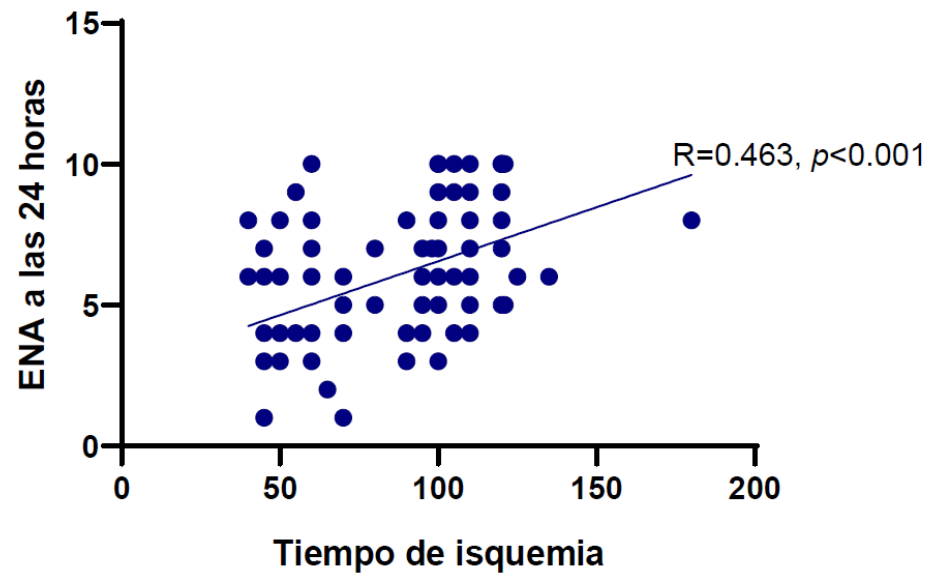


Tabla 2. Frecuencias y porcentaje del dolor experimentado en los pacientes a las 6 y 24 horas postquirúrgicas.

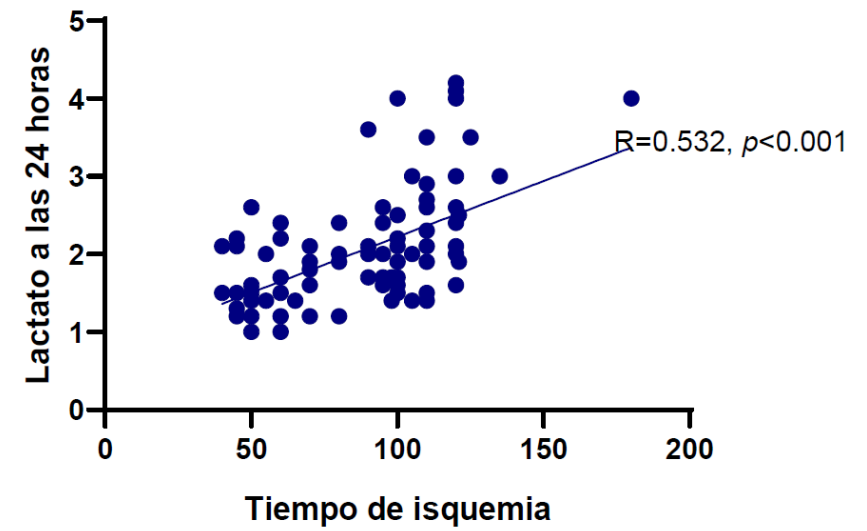
Escala Numérica Análoga	Frecuencia (n)	Porcentaje (%)
6 horas		
Leve	24	24.5
Moderado	33	33.7
Severo	41	41.8
24 horas		
Leve	12	12.2
Moderado	44	44.9
Severo	42	42.9

Tabla 1. Medidas de tendencia central y de dispersión del tiempo de isquemia en los pacientes.

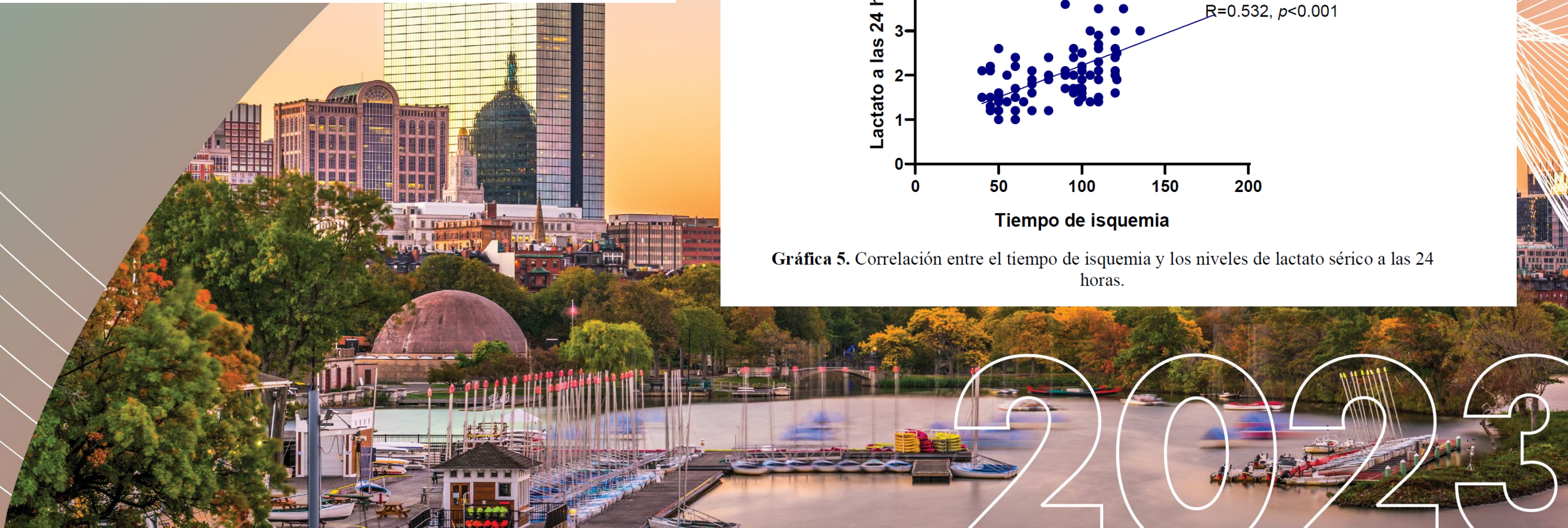
	Mediana	Límite inferior	Límite superior	Minimo	Máximo
Tiempo de isquemia	100	83.6	94.8	40	180



Gráfica 4. Correlación entre el tiempo de isquemia y el dolor experimentado por los pacientes a las 24 horas.



Gráfica 5. Correlación entre el tiempo de isquemia y los niveles de lactato sérico a las 24 horas.



Conclusions

- The results obtained in the present study allow us to conclude that pain and serum lactate levels rose 24 hours postoperatively, maintaining a predominance of moderate and severe pain. In addition, the time of ischemia that was observed had statistically significant correlations with the lactated at 24 hours and with the pain experienced also at 24 hours, which means that, the longer the time of ischemia, the greater the pain experienced by the patients and the higher the lactate levels.



- With these results the alternate hypothesis of our study is verified.
- In the future it will be necessary for surgeons to take into account the possible consequences of surgical ischemia, which, although it can facilitate the arthroplasty procedure, also has negative results in the muscle and possibly at the systemic level in the patient.



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