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OMICS Group has organized 500 conferences, workshops and national symposiums across the major cities including San Francisco, Las Vegas, San Antonio, Omaha, Orlando, Raleigh, Santa Clara, Chicago, Philadelphia, Baltimore, United Kingdom, Valencia, Dubai, Beijing, Hyderabad, Bengaluru and Mumbai.

PİNEALECTOMY CAUSES OXİDATİVE STRESS İN THE BRAİN TİSSUE OF RATS UNDERWENT TO ABDOMİNAL SURGERY

Assoc. Prof. Mehmet Ozler

- Melatonin; the main secreted substance of the pineal gland is a molecule consisting of indole structure which is found in all aerobic living beings from unicellular to mammals.

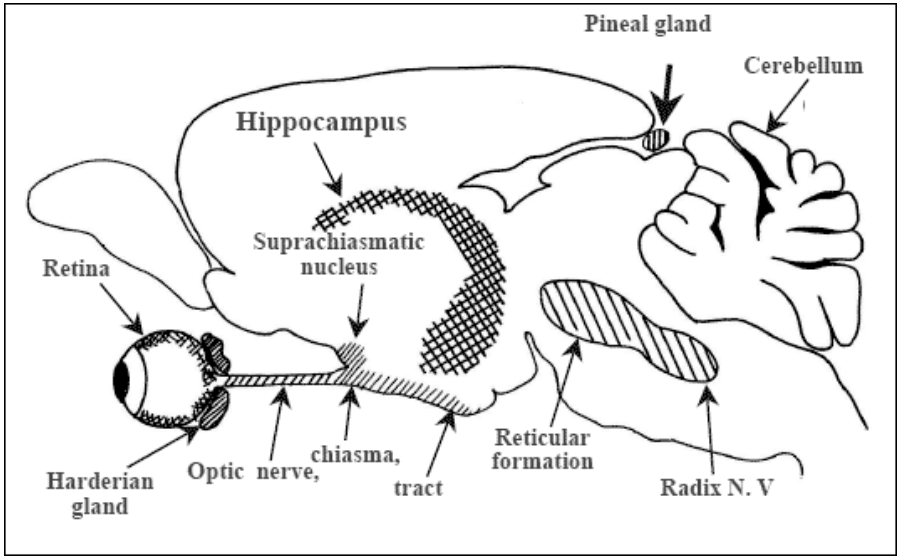
- It is known to be associated with many biological events such as biological rhythms, sexual maturation, reproduction, sleep, mood and immunity.

- It has also been shown to have an antioxidant effect in various in vivo and in vitro studies

- However, it is a fact that mechanisms of antioxidant enzymes may not depend on just melatonin.
- By thinking over these explanations in our study we aimed to investigate levels of oxidant/antioxidant parameters on brain tissue as remote organ effect on rats being applied peritoneal adhesion.

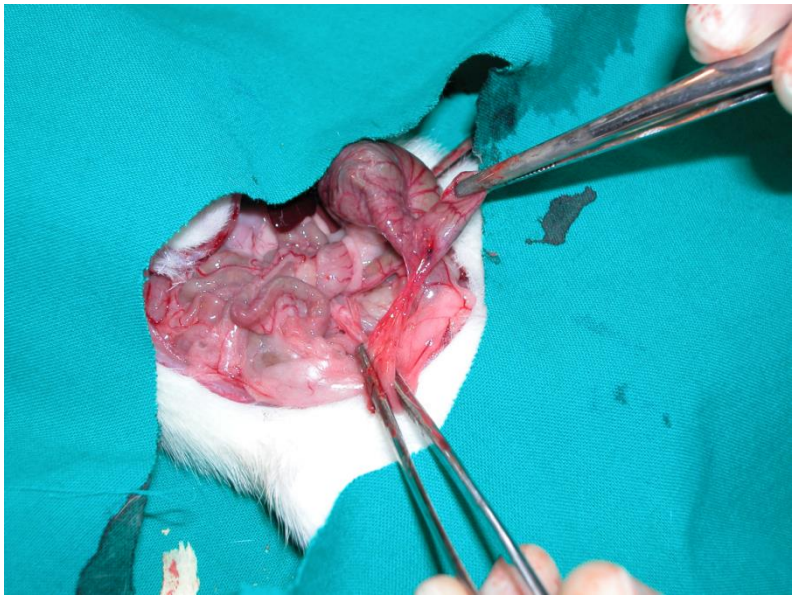
- In this study 21 Sprague-Dawley male rats were divided into three groups.
  - Control
  - Pnealectomy
  - Pinealectomy+melatonin

- In the first phase of this study pinealectomy procedure was applied on two groups. These groups were left on their own for 15 days.



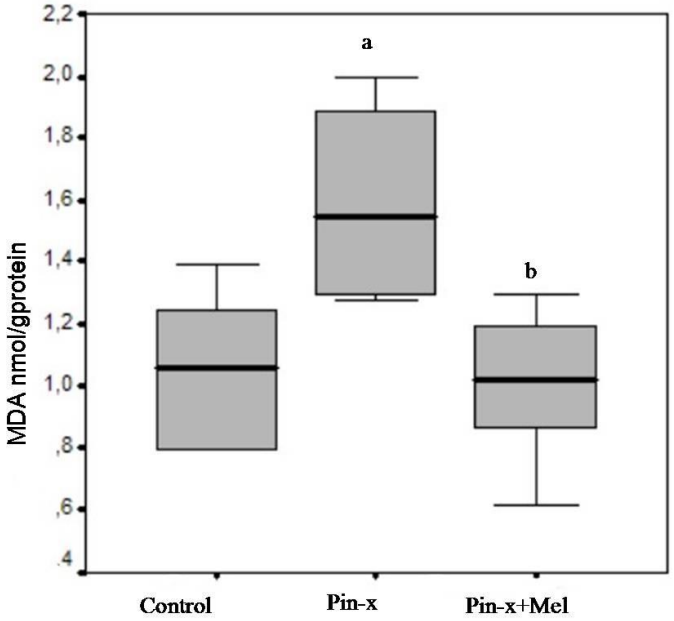
http://jpp.krakow.pl/journal/archive/11_06_s5/articles/04_article.html

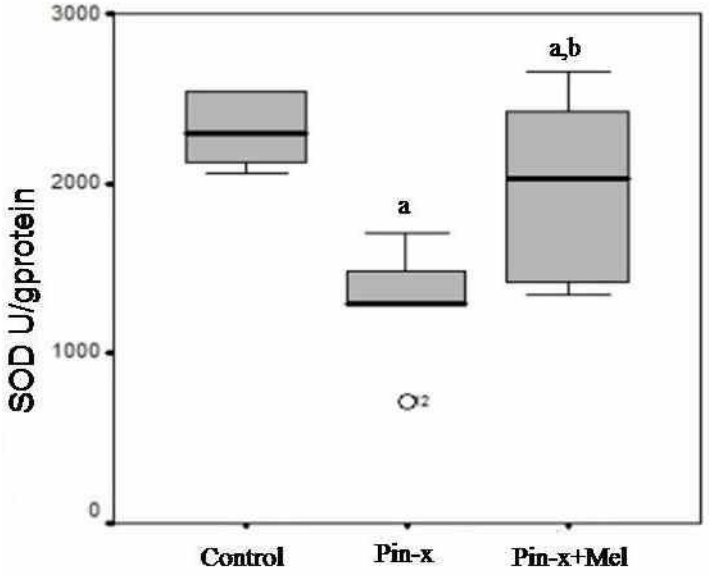
- 15 days later from pinealectomy, peritoneal adhesion model was prepared by making incision in cecums of rats and suturing them.

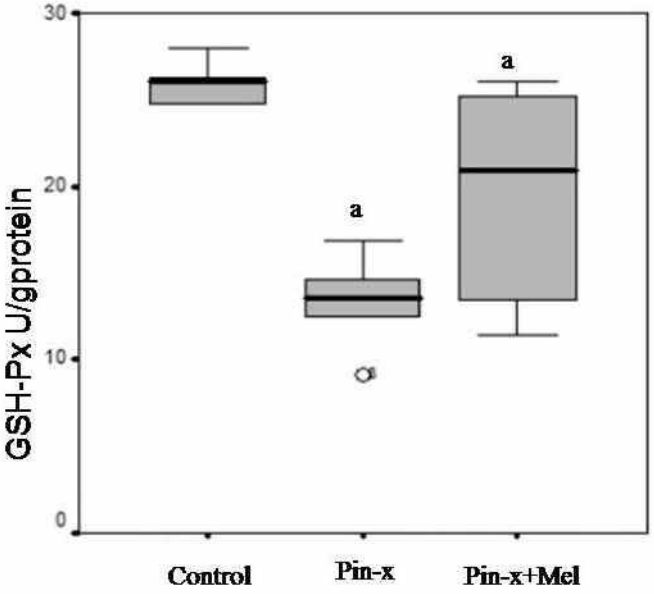


- One of the groups on which pinealectomy was applied single doze 5mg/kg oral melatonin was applied for 15 days.
- This process was begun just after the operation and followed everyday throughout 15 days.

- At the end of fifteen days, Apart from evaluation of adhesion lesions, their cranium were opened and their brain tissues were excised.
  - Malondialdehyde (MDA),
  - Superoxide dismutase (SOD),
  - Glutathion peroxidase (GSH-Px)


MDA nmol/gprotein
2,2
2,0
1,8
1,6
1,4
1,2
1,0
,8
,6
,4
a
b
Control
Pin-x
Pin-x+Mel


SOD U/gprotein
3000
2000
1000
0
a,b
a
Control
Pin-x
Pin-x+Mel


GSH-Px U/gprotein
30
20
10
0
a
a
Control
Pin-x
Pin-x+Mel

Conclusion

- The results of the present study demonstrated clearly that pinealectomy causes oxidative stress and that melatonin administration can relatively ameliorate this effect in the rats brain.

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