# Article information:

The preparation of oxidized methylcellulose crosslinked by adipic acid dihydrazide loaded with vitamin C for traumatic brain injury - Journal of Materials Chemistry B (RSC Publishing) DOI:10.1039/C9TB00816K
<https://pubs.rsc.org/en/content/articlehtml/2019/tb/c9tb00816k>

# Article summary:

1. Traumatic brain injury (TBI) is a major cause of disability and mortality, with significant economic burden.

2. Reactive oxygen species (ROS) produced at the injury site can lead to secondary brain injury, making immediate treatment crucial.

3. An oxi-MC-ADH hydrogel loaded with vitamin C was developed as a local delivery formulation for ROS scavenging, demonstrating neuroprotective effects in vitro and in vivo.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article titled "The preparation of oxidized methylcellulose crosslinked by adipic acid dihydrazide loaded with vitamin C for traumatic brain injury" published in the Journal of Materials Chemistry B presents a study on the use of an oxi-MC-ADH hydrogel as a carrier for vitamin C to mitigate the secondary damage following TBI. While the study provides some valuable insights into the potential benefits of using this hydrogel, there are several issues with the article that need to be addressed.

Firstly, the article seems to have a biased perspective towards promoting the use of oxi-MC-ADH hydrogel as a potential treatment for TBI without exploring its limitations or potential risks. The authors do not provide any information on possible side effects or adverse reactions associated with using this hydrogel, which is essential information for patients and healthcare providers.

Secondly, while the study claims that oxi-MC-ADH-VC hydrogel has good biocompatibility in vitro, it does not provide any evidence to support this claim. The authors should have conducted more extensive studies to evaluate the safety and efficacy of this hydrogel before making such claims.

Thirdly, the article lacks consideration of other potential treatments for TBI. While vitamin C has been reported to have neuroprotective effects against ROS-related ailments in animals, there are other treatments available that may be more effective in treating TBI. The authors should have discussed these alternative treatments and compared their effectiveness with oxi-MC-ADH-VC hydrogel.

Fourthly, the article makes several claims without providing sufficient evidence to support them. For example, it claims that injecting PBS containing a high concentration of vitamin C into the peritoneal cavity is not effective because injected vitamin C loses bioactivity after a long circulation period. However, no evidence is provided to support this claim.

Finally, while the study shows promising results in rats with TBI, it is unclear whether these results can be extrapolated to humans. The authors should have discussed the limitations of their study and the need for further research to evaluate the safety and efficacy of oxi-MC-ADH-VC hydrogel in humans.

In conclusion, while the study provides some valuable insights into the potential benefits of using oxi-MC-ADH-VC hydrogel as a carrier for vitamin C to mitigate secondary damage following TBI, there are several issues with the article that need to be addressed. The authors should provide more evidence to support their claims, consider alternative treatments for TBI, and discuss the limitations of their study. Additionally, they should provide information on possible side effects or adverse reactions associated with using this hydrogel and acknowledge that further research is needed to evaluate its safety and efficacy in humans.

# Topics for further research:

* Limitations and risks of oxi-MC-ADH hydrogel for TBI treatment
* Lack of evidence for biocompatibility of oxi-MC-ADH-VC hydrogel
* Comparison with alternative treatments for TBI
* Insufficient evidence to support claims made in the article
* Uncertainty of extrapolating results from rats to humans
* Need for further research to evaluate safety and efficacy of oxi-MC-ADH-VC hydrogel in humans

# Report location:

<https://www.fullpicture.app/item/9e264970bc4578021d7b7f59d3c30ff0>