SIMPLE UV SPECTROPHOTOMETRIC ASSAY OF HYDROXAZINE

Safila Naveed,1* Fatima Qamar,1 Syeda Zainab,2 Ghulam Sarwar1 and Muhammad Tanweer Alam1,3

1Faculty of Pharmacy Jinnah University for Women Karachi.
2Faculty of Pharmarcy University of Karachi.
3Drug Regularity Authority of Pakistan, Government of Pakistan, Karachi.

ABSTRACT
For the assay of hydroxazine a least time consuming simple and efficient UV spectrophotometric method has been developed. The assay is based on the ultraviolet UV spectroscopy measuring absorbance maxima at about 230nm wavelength of hydroxazine using water as solvent. A sample of drug was dissolved in water to produce a the furosemide solution contain hydroxazine. Similarly, a sample of ground tablets of different brand were dissolved in water and various dilutions were made. The absorbance of sample preparation was measured at 230nm against the solvent blank. Regression line was obtained for different dilutions. It shows a linear relationship between absorbance and concentration.

KEYWORD: Hydroxazine, efficient UV spectrophotometric.

INTRODUCTION
First-generation antihistamine hydroxazine belongs to the diphenylmethane and piperazine class of drugs. Hydroxazine have strong anxiolytic, mild antiobsessive and antipsychotic properties as it antagonize several receptor systems in the brain.\(^1\) it is used for the symptomatic relief of anxiety associated with psychoneurosis. As it has antihistamine effects it can also be used for the treatment of severe cases of itching, hyperalgiesia and nausea induced by motion sickness and used in some cases to relieve the effects of opioid withdrawal, it is also an effective sedative and hypnotic.\(^2\) It also have potential of
abuse, dependence, addiction, and toxicity of other drugs used for the same range of therapeutic reasons.\cite{3} Hydroxyzine is as effective as the benzodiazepine drug such as bromazepam in the treatment of generalised anxiety disorder.\cite{4} Hydroxyzine can also be used for the treatment of allergic conditions, such as urticaria dermatoses, and pruritus mediated by histamine. These have also been confirmed in both recent and past studies to have no adverse effects on the liver, blood, nervous system or urinary tract.\cite{5}

The aim of study is to develop a simple and least cost effective method for the assay of hydroxazine. This method is preferred over other methods as uv as routine analysis in pharmaceutical organizations. We have already performed such type of work Spectrometers are easy and simple system it take less time to analyze. This method can be applied.

![Fig-1 structure of Hydroxazine](image)

**EXPERIMENTAL**

UV visible 1601 Shimadzu double beam spectrophotometer was used to measurement of spectra. The solvent which are used for the assay was water.

**Wavelength Selection**

About 200 ppm of hydroxazine solution was accurately prepared in water. This solutions were scanned in the 200-400 nm UV region. The wavelength maxima ($\lambda_{\text{max}}$) was observed at 230 nm and this wavelength was adopted for absorbance measurement.

**Standard Stock solution**

20 tablets of hydroxazine from the marketed sample were weighed and crushed uniformly with the help of a mortar and pestle. By calculating the average weighed sample powder equivalent to 40 mg of hydroxazine was transferred into a volumetric flask containing 10mL water. The solutions were sonicated for about 5 min and than make up volume upto 100 ml with water.

**Sample Preparation**

Four different dilutions were then made i.e of 100ppm, 50ppm, 25ppm and 12.5ppm from the stock solution by serial dilution.
Procedure
After preparation of standard and sample solutions, strength of solution 200ppm, 100 ppm, 50ppm, 25ppm and 12.5ppm in 100 ml absorbance of the sample preparation and standard preparation in 1 cm cell at the wavelength of maximum absorbance at about 230nm, using a spectrophotometer, using the blank solution. Regression line was obtained for different dilutions.

RESULT AND DISCUSSION
We have prepared standard and sample solutions, strength of solutions are 200ppm, 100 ppm, 50ppm, 25ppm and 12.5ppm in 100 ml, absorbance of the sample preparation and standard preparation at the wavelength of maximum absorbance at about 230nm, using a spectrophotometer was measured, using the blank solution. At 200ppm of concentration it shows absorbance of 0.222, at 100ppm it shows to be 0.111, at 50 ppm concentration the absorbance is find to be 0.054, at 25ppm the absorbance is 0.03 and at 12.5ppm it is 0.015. Regression line was obtained for different dilutions. It shows a linear relationship between absorbance and concentration. brands. These studies are very helpful for pharmacist doctors and drug prescribers to choose best drug. [6-32]

Table 1. Absorbance of hydroxazine at different dilutions.

<table>
<thead>
<tr>
<th>Con ppm</th>
<th>abs</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>0.222</td>
</tr>
<tr>
<td>100</td>
<td>0.111</td>
</tr>
<tr>
<td>50</td>
<td>0.054</td>
</tr>
<tr>
<td>25</td>
<td>0.03</td>
</tr>
<tr>
<td>12.5</td>
<td>0.015</td>
</tr>
</tbody>
</table>

Fig 2. Linearity graph for different dilutions of hydroxazine.
REFERENCES
http://www.openscienceonline.com/journal/archive?journalId=717
http://www.aascit.org/journal/archive?journalId=908


