Ascorbic acid (also known as vitamin C) is a drug used for the treatment of scurvy and as a substituent in patients who have a vitamin C deficiency. In studies, Ascorbic acid has shown following effects:

- Antibacterial
- Antiviral
- Immunostimulatory
- Anti-inflammatory

Therefore, Ascorbic acid is suitable for strengthening the immune system but only as adjunctive therapy to other drugs.

However, studies have shown that Ascorbic acid does not reduce the incidence of colds and flu. Therefore, most people who eat properly get enough amounts of this vitamin through diet alone. Ascorbic acid is a water-soluble vitamin, which means that it cannot be stored in the fatty cells in the body. Therefore, intake of excessive amounts of this vitamin rarely leads to toxicity.

### Precautions

Use of Ascorbic acid is contraindicated in patients who have hiperoxaluria (*increased urinary excretion of the oxalate*).

If you take Ascorbic acid for a longer periods of time in larger doses, it will usually result in
increased excretion of this vitamin by the kidneys. Once you stop taking Ascorbic acid, your kidneys will continue to excrete large amounts of vitamin C from the body in spite the fact that you stopped using the drug. Thus, discontinuation of therapy can very quickly lead to the deficit of vitamin C. Therefore, Ascorbic acid should be used in moderate doses.

**Ascorbic acid, pregnancy and breastfeeding**

Although vitamins are often applied to pregnant women, studies have shown that administration of Ascorbic acid during pregnancy has no particular benefit for the mother and fetus. Manufacturer states that doses greater than 1000 mg must not be used during pregnancy because the effects of high doses on fetus are unknown.

Harmful effects of Ascorbic acid during lactation were not observed.

**Dosage**

Recommended dosage in adults is given in the table below:

<table>
<thead>
<tr>
<th>Indication</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scurvy</td>
<td>200 mg three times daily, just before meals</td>
</tr>
<tr>
<td>Vitamin C deficiency</td>
<td>50-200 mg daily</td>
</tr>
<tr>
<td>Urinary acidification</td>
<td>1-3 grams, four times a day</td>
</tr>
</tbody>
</table>

Recommended dosage for children older than 6 years is given in the table below:

<table>
<thead>
<tr>
<th>Indication</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scurvy</td>
<td>100 mg three times daily, just before meals</td>
</tr>
<tr>
<td>Vitamin C deficiency</td>
<td>40-100 mg daily</td>
</tr>
<tr>
<td>Urinary acidification</td>
<td>500 mg 3-4 times a day</td>
</tr>
</tbody>
</table>

**Note:** This dosage is applicable to all dosage forms of Ascorbic acid (*tablets, lozenges, and injection*).

**Interactions**

Ascorbic acid should not be administered concurrently with the following drugs:

- Antacids that contain aluminum. Concomitant use of Ascorbic acid with antacids containing aluminum, increases the excretion of aluminum in the urine, which can harm patients with renal insufficiency.
- Desferrioxamine (*a drug used for the treatment of thalassemia and hemochromatosis*). Cases of cardiomyopathy and heart failure have been reported in patients who simultaneously applied these two drugs.
• Amphetamine. Ascorbic acid reduces the effect of this drug.

### Side effects

Ascorbic acid may cause the following side effects:

- Nausea
- Vomiting
- Stomach cramps
- Transient reddening of the face
- Frequent urination
- Diarrhea (*only at high doses*).

### References

1. NCBI link 1
2. NCBI link 2
3. NCBI link 3