Vonoprazan following single administration to healthy adult male subjects once daily for 7 days, AUC (0-tau) and C max were higher by 1.3 times and 1.2 times, respectively, in patients with mild, moderate, and severe renal disorder compared to subjects with normal renal function, showing an increase with a reduction in renal function. AUC and C max were higher by 1.3 times and 1.2 times, respectively, in ESRD patients compared to those in subjects with normal renal function.

Special population
Patients with renal impairment
The effect of renal disorders on pharmacokinetics of Vonoprazan in subjects with normal renal function, patients with mild, moderate, and severe renal disorder is presented in the table as follows:

<table>
<thead>
<tr>
<th>Dose condition</th>
<th>10mg</th>
<th>20mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>T max (h)</td>
<td>1.5 (0.75, 3.0)</td>
<td>1.5 (0.75, 3.0)</td>
</tr>
<tr>
<td>C max (ng/ml)</td>
<td>12.0 ± 1.8</td>
<td>26.3 ± 6.6</td>
</tr>
<tr>
<td>T 1/2 (h)</td>
<td>7.0 ± 1.4</td>
<td>6.1 ± 1.2</td>
</tr>
<tr>
<td>AUCC max (ng/ml)</td>
<td>79.5 ± 16.1</td>
<td>151.6 ± 40.3</td>
</tr>
</tbody>
</table>

Mean ± S.D. of 9 subjects (T max is expressed by the median (minimum value, maximum value)).

Absorption
Absolute bioavailability has not been determined. The pharmacokinetic parameters of Vonoprazan following single administration to healthy adult male subjects at 20mg under fasting and fed conditions are presented in the table as follows:

<table>
<thead>
<tr>
<th>Dose condition</th>
<th>Under fasting</th>
<th>After meal</th>
</tr>
</thead>
<tbody>
<tr>
<td>T max (h)</td>
<td>1.5 (0.75, 3.0)</td>
<td>3.0 (1.0, 4.0)</td>
</tr>
<tr>
<td>C max (ng/ml)</td>
<td>24.3 ± 6.6</td>
<td>26.8 ± 9.6</td>
</tr>
<tr>
<td>T 1/2 (h)</td>
<td>7.7 ± 1.0</td>
<td>7.7 ± 1.2</td>
</tr>
<tr>
<td>AUCC max (ng/ml)</td>
<td>222.1 ± 69.7</td>
<td>238.3 ± 71.1</td>
</tr>
</tbody>
</table>

Mean ± S.D. of 12 subjects (T max is expressed by the median (minimum value, maximum value)).

Pharmacokinetics
Pharmacokinetics at consecutive administration of a daily dose of 10mg or 20mg of Vonoprazan in healthy adult male subjects once daily for 7 days, AUC C max, and C max increase as the dose increases. The degree of these increases is slightly higher than the dose ratio. It is considered that the steady state has been reached by day 3 of administration, since the trough level of the blood concentration of Vonoprazan is constant between day 3 and day 7 of administration. In addition, it is considered that pharmacokinetics of Vonoprazan at consecutive administration may not be time-dependent, as the result of the evaluation of accumulation with regard to AUC C max and T 1/2 of Vonoprazan:

When radioactive-labelled drug (15mg as Vonoprazan) is orally administered to healthy male volunteers, 5% of the radioactivity is excreted in urine and faeces by 168 hours after administration: 67.4% into urine and 31.1% into faeces.

Distribution
The protein binding rate is 85.2 to 88.0% when [14C] Vonoprazan in the range of 0.1 to 10µmol/l is added to human plasma (in vitro).

Elimination
Vonoprazan is metabolized mainly by hepatic drug-metabolizing enzyme CYP3A4 and partially by CYP2B6, CYP2C19 and CYP2D6. Vonoprazan is also metabolized by sulfotransferase SULT2A1 (in vitro).

Vonoprazan exhibits time-dependent inhibitory effect on CYP2B6, CYP2C19 and CYP3A4 (in vitro). In addition, Vonoprazan shows a slight concentration-dependent inhibitory effect on CYP1A2 but it shows little inhibitory effect on CYP2B6 and CYP3A45 (in vitro).

CYP1A2, CYP2B6, CYP2C19, CYP2D6, and CYP3A4 are expressed in the liver, and to a lesser extent in the kidney. The selective inhibitory effects of Vonoprazan on CYP2B6, CYP2C19, and CYP3A4 are approximately 2.4 times, 1.3 times, and 1.6 times, respectively, compared to Verapamil, which is known to be a strong inhibitor of CYP2B6, CYP2C19, and CYP3A4.

The effect of hepatic disorders on pharmacokinetics in subjects with normal hepatic function and patients with mild, moderate and severe hepatic disorder was assessed. The pharmacokinetics of Vonoprazan in subjects with normal hepatic function and patients with moderately impaired hepatic function were similar, and no significant differences were observed in subjects with severe hepatic disorders compared to subjects with normal hepatic function.

Vonoprazan is metabolized by CYP1A2, CYP2B6, CYP2C19, and CYP3A4 via liver metabolism. Vonoprazan is also metabolized by sulfotransferase SULT2A1 (in vitro).

The in vitro metabolic stability of Vonoprazan to plasma from healthy subjects and patients with mild, moderate, and severe hepatic dysfunction is not significantly different.

The effect of renal disorders on pharmacokinetics of Vonoprazan in subjects with normal renal function, patients with mild, moderate, and severe renal disorder was assessed. The pharmacokinetics of Vonoprazan in subjects with normal renal function and patients with moderately impaired renal function were similar, and no significant differences were observed in patients with severe renal disorders compared to patients with normal renal function.

The effect of hepatic disorders on pharmacokinetics in subjects with normal hepatic function and patients with mild, moderate and severe hepatic disorder was assessed. The pharmacokinetics of Vonoprazan in subjects with normal hepatic function and patients with moderately impaired hepatic function were similar, and no significant differences were observed in subjects with severe hepatic disorders compared to subjects with normal hepatic function.

THERAPEUTIC INDICATIONS
Vonozan (Vonoprazan) is indicated for:
1. Gastric ulcer, duodenal ulcer, reflux esophagitis, prevention of recurrence of gastric or duodenal ulcer during low-dose aspirin administration, prevention of recurrence of gastric or duodenal ulcer during non-steroidal anti-inflammatory drug (NSAID) administration.
2. Adjunct to Helicobacter pylori eradication in the following settings: Gastric ulcer, duodenal ulcer, gastric mucosa-associated lymphoid tissue (MALT) lymphoma, idiopathic thrombocytopenic purpura, the stomach after endoscopic resection of early stage gastric cancer or Helicobacter pylori gastritis.

DOSAGE AND ADMINISTRATION
Gastric ulcer and duodenal ulcer
The usual adult dosage for oral use is 20mg of Vonozan (Vonoprazan) administered orally once daily an 8 week treatment for gastric ulcer and a 6 week treatment for duodenal ulcer.

Reflex esophagitis
The usual adult dose for oral use is 20mg of Vonozan (Vonoprazan) administered once daily for a total of 4 weeks of treatment. If that dosage proves insufficient, the administration should be extended, but for no longer than 8 weeks of treatment.

For the maintenance therapy of reflex esophagitis showing recurrence and récrudescence, the dose for oral use is 10mg of Vonozan (Vonoprazan) once daily. However, when the efficacy is inadequate, the dosage may be increase up to 20mg of Vonozan (Vonoprazan) once daily.

Prevention of recurrence of gastric or duodenal ulcer during low-dose aspirin administration
The usual adult dosage is one tablet of 10mg of Vonozan (Vonoprazan) administered orally once daily.

Prevention of recurrence of gastric or duodenal ulcer during non-steroidal anti-inflammatory drug (NSAID) administration
The usual adult dosage is one tablet of 10mg of Vonozan (Vonoprazan) administered orally once daily.

Special population
The following three-drug regimen should be administered orally at the same time twice daily for seven days: 20mg of Vonozan (Vonoprazan), 750mg of amoxicillin hydroxide and 250mg of clarithromycin. The dose of clarithromycin may be increased as clinically warranted. However, dosage should not exceed 400mg twice daily.

CONTRAINdications
Vonoprazan is contraindicated in:
• Patients with hypersensitivity to Vonoprazan or to any excipient of the product.
• Patients recovering abdominal pain, reflux symptoms, or diarrhea.
• Patients who have shown eosinophilia.

ALT increased, ALP increased, LDH increased,
eruption, urticaria, hepatotoxicity, jaundice, rash, nausea, abdominal distension,
ADVERSE REACTIONS

Following adverse reactions have been reported with the use of Vonoprazan:
- Diarrhea, constipation, drug hypersensitivity (including anaphylactic shock), drug eruption, urticaria, hepatobiliary jaundice, rash, nausea, abdominal distension, gamma-glutamyl transferase increase, AST increase, Liver function test abnormal, ALT increased, ALP increased, LDH increased, y - GPT increased, edema and eosinophilia.

“To report SUSPECTED ADVERSE REACTIONS to Getza Pharma’s Pharmacovigilance Section, please contact at dialfey@getzapharma.com or +92-21-3809383.”

PRECAUTIONS

General
- In the treatment, the course of the disease should closely be observed and the minimum therapeutic necessity should be used according to the disease condition.
- In the long-term, treatment with Vonoprazan, close observation by such means as endoscopy should be made.
- In the maintenance of healing of reflux esophagitis. Vonoprazan should be administered only to the patients who repeat recurrence and re-treatment of the condition.
- Administration to the patients who do not necessitate maintenance of healing should be avoided.
- When the healing is maintained over a long period and when there is no risk of recurrence, the dose reduction to a dose of 10mg from a dose 20mg, or suspension of administration should be considered.

Impaired Renal Function
- Vonoprazan should be administered with care in patients with renal disorders as a delay in the excretion of Vonoprazan may occur, which may result in an increase in the concentration of Vonoprazan in the blood.

Impaired Hepatic Function
- Vonoprazan should be administered with care in patients with hepatic disorders as a delay in the metabolism and excretion of Vonoprazan may occur, which may result in an increase in the concentration of Vonoprazan in the blood. Hepatic function abnormalities including liver injury have been reported. Discontinuation of Vonoprazan is recommended in patients who have evidence of liver function abnormalities or if they develop signs or symptoms suggestive of liver dysfunction.

Elevation of intra-gastric pH
- Administration of Vonoprazan results in elevation of intra-gastric pH and is therefore not recommended to be taken with drugs for which absorption is dependent on acidic intra-gastric pH. Symptomatic responses to Vonoprazan does not preclude the presence of gastric malignancy. It is therefore, necessary to ascertain the user is not of a malignant nature before initiating the administration of this drug.

C. difficile, serious colitis, including pseudomembranous colitis
- There is an increased risk of gastrointestinal infection caused by C. difficile. Serious colitis accompanied with bloody stools, such as pseudomembranous colitis, may occur due to amoxicillin hydrochloride or clarithromycin being used for Helicobacter pylori eradication, in combination with Vonoprazan. If abdominal pain, frequent diarrhea occur, appropriate measures, such as immediate discontinuation of the treatment, should be taken.

Benign gastric polyps
- Benign gastric poly has been observed in patient on long-term administration of PPIs.

Fractures
- An increased risk for osteoporosis-related fractures of the hip, wrist or spine have been reported in patients under treatment with proton pump inhibitors. The risk of fracture was especially increased in the patients receiving high dose or long term (a year or longer) treatment.

Hypomagnesemia
- Severe hypomagnesemia has been reported in patients on prolonged treatment with PPIs for at least three months and in most cases for a year.

Use in elderly
- Since the physiological functions such as hepatic or renal function are decreased in elderly patients in general, Vonoprazan should be carefully administered.

Use in children less than 18 years of age
- Vonoprazan has not been studied in patients under 18 years of age.

Pregnancy
- Vonoprazan should be used in pregnant women or women having possibilities of being pregnant only if the expected therapeutic benefit is thought to outweigh any possible risk.

Nursing Mothers
- It is advisable to avoid the administration of Vonoprazan to nursing mothers. However, when the administration is indispensable, nursing should be discontinued.

DRUG INTERACTIONS

Vonoprazan should be administered with care when co-administered with the following drugs:

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Signs</th>
<th>Mechanism &amp; Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYP3A4 inhibitors</td>
<td>Blood conc. of Vonoprazan may increase.</td>
<td>It has been reported that blood conc. of Vonoprazan increased in concomitant use with clarithromycin.</td>
</tr>
<tr>
<td>Clarithromycin etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digoxin, Methylprednisolone</td>
<td>Effect of these drugs may be enhanced.</td>
<td>Gastric antisecretory effect of Vonoprazan may inhibit hydrolysis of digoxin, resulting in increase in the blood concentration of digoxin.</td>
</tr>
</tbody>
</table>

OVERDOSAGE

There is no experience of overdose with Vonoprazan. Vonoprazan is not removed from the circulation by hemodialysis. If overdose occurs, treatment should be symptomatic and supportive.

STORAGE
- Do not store above 30°C.
- Protect from sunlight and moisture.

The expiration date refers to the product correctly stored at the required conditions.

HOW SUPPLIED
- Vonozan (Vonoprazan) Tablets 10mg are available in pack of 14's.
- Vonozan (Vonoprazan) Tablets 20mg are available in pack of 14's.

Keep out of reach of children.

To be sold on prescription of a registered medical practitioner only.

Please read the contents carefully before use. This package insert is continually updated from time to time.