Gaza City (CNN) -- An Italian humanitarian activist and journalist who was kidnapped in Gaza has been found dead and one person is in custody, the Hamas Interior Ministry said Friday in a statement.

Police investigating the case learned where 36-year-old Vittorio Arrigoni was being held and went to the location, where they found the body, the statement said.

An autopsy revealed that he had been killed hours before police entered the location, it said.

Medical sources said his body was taken to Shifa Hospital in Gaza.

The grisly outcome came hours after a video was posted on YouTube showing a man identified by his colleagues as Arrigoni. A black blindfold covered his eyes; his right cheek appeared red as though it had been hit; his hands appeared to be bound behind his back. A hand belonging to someone outside of the view of the lens appeared to be grasping his hair on the back and pointing the captive's head toward the camera.

Arabic writing scrolled over the video threatened that Arrigoni would be killed if Hesham al-Saeedni, who has been held for nearly a year by Hamas, were not released within 30 hours of 11 a.m. Thursday. Al-Saeedni is the leader of a group that may have been inspired by al Qaeda, said Alfredo Tradardi, the Italy coordinator for the International Solidarity Movement, where Arrigoni was a volunteer.

The writing calls Italy an "infidel nation whose armies are still present

in Muslim lands."

Tradardi, who had initially expressed optimism that his co-worker would be released unharmed, told CNN in a telephone interview that the outcome underscores the need for progress to be made toward Middle East peace. "Now, we have to work more deeply to try to change the foreign policy of our government, of the European government, of the United States government in order that they could press Israel to solve the problem of the Palestinians."

Arrigoni had been active in the Palestinian cause for nearly a decade, and had been allied with the International Solidarity Movement for more than two years, "monitoring human rights violations by Israel, supporting the Palestinian popular resistance against the Israeli occupation and disseminating information about the situation in Gaza to his home country of Italy," the non-governmental organization said in a written statement.

He was granted honorary citizenship for his work for the Palestinian people, the statement said.

"Vittorio Arrigoni is a hero of Palestine," said a statement released by Khalil Shaheen, head of the economics and social rights department at the Palestinian Centre for Human Rights. "He was available everywhere to support all the poor people, the victims."

Arrigoni's colleagues last saw him about 8 p.m. Wednesday near the port in Gaza City, said Joe Catron, a member of the International Solidarity

Movement.

"I think he was just the first foreigner they ran across," Catron said about the abductors. "It is ironic they happened to come across someone who has dedicated a part of his life to helping Palestine."

Arrigoni, who was also working as a freelance journalist, was from the northern Italian region of Lombardy.

Journalist Talal Abu-Rahmi, CNN's Yasmin Amer, Tom Watkins and Erin McLaughlin contributed to this story

NEW: Autopsy indicates he had been dead for hours before police arrived

YouTube video appears to show the activist bound and blindfolded

The activist and freelance journalist was from the Lombardy region in northern Italy