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Rescuers accident during via ferrata rescue mission in a forest area

KRYNICA 2012



Sécurité civile



On Wednesday the 23th of May at 5:45 pm :

emergency call for a 50 YO male who fell from a via ferrata (about 30 m high)

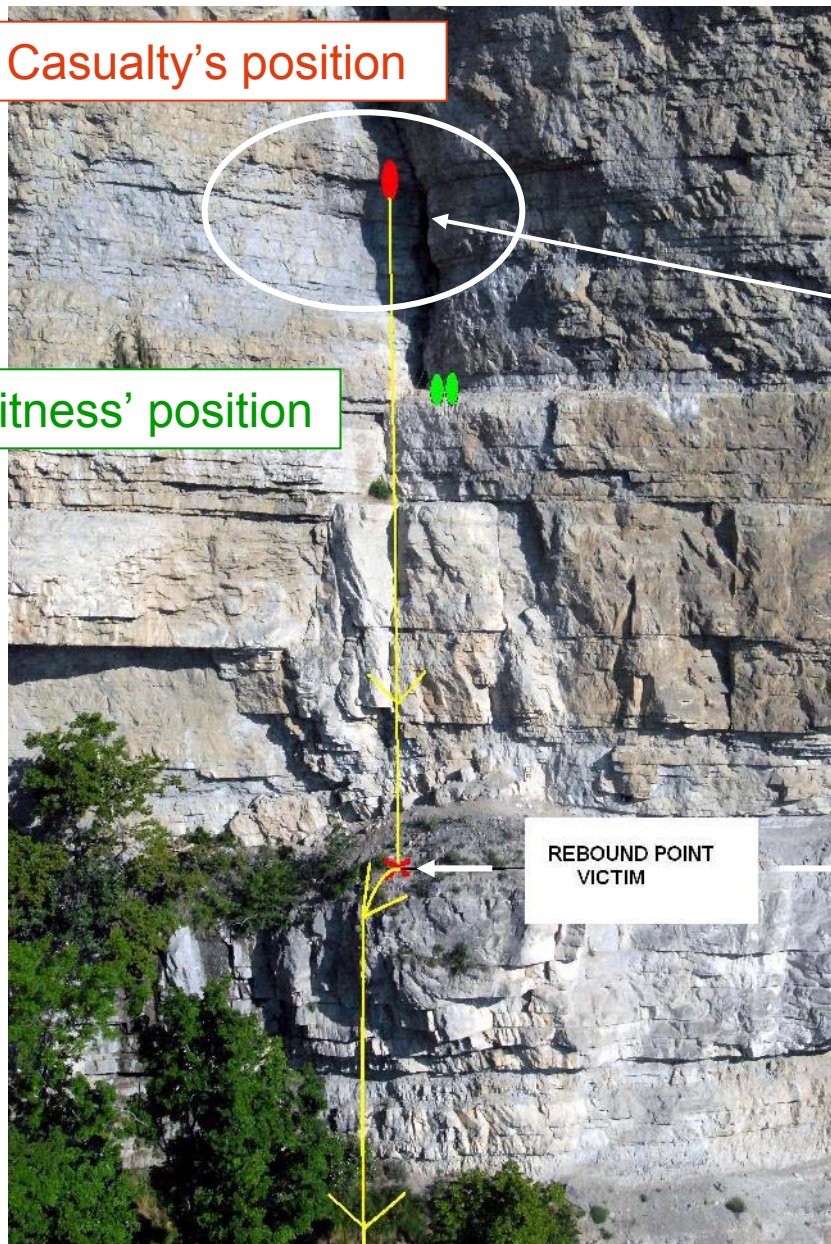


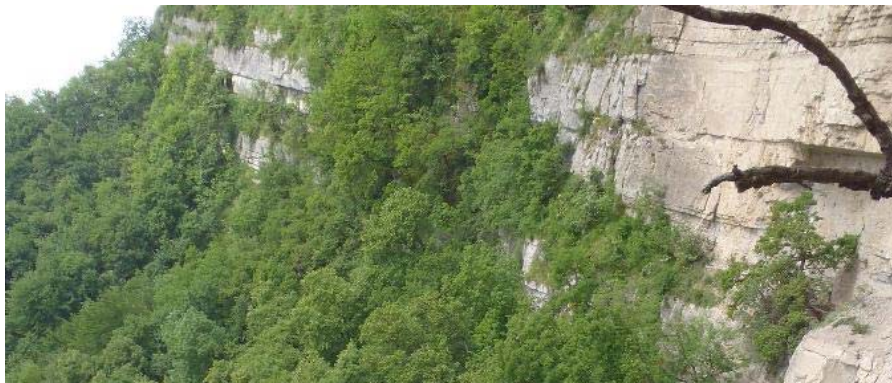
Initial Casualty's position

Witness' position

25 m

5 m and more.. In the trees





1st rescuer hoist operation area



Supposed research area



Immediately after rescuer hanged of the winch, a tree fell onto him. As he did not hear the “crack” due to rotor noise, he did not protect himself.



He made a radio call for Help.

A second rescue team (including a medical doctor) was dropped on a hoist operation about 200 m far away from initial area. Way to join casualties was very steep (30 °) and slippery.





Rescuer had a upper leg, a pelvic and an arm trauma. Hemorrhagic shock was highly suspected due to fluctuated consciousness and high heart rate

He received advanced life support by MD (KED, Blood fluid, O2, analgesia ...) and was to be evacuated in a Franco Garda stretcher by hoist operation together with MD.

Terrestrial (ground) evacuation to the second dropping zone was not an option (too long and dangerous).

When helicopter approached (80m above dropping zone), a second tree fell onto rescue team.

1st rescuer and MD (tied together) were unable to protect themselves and were injured once again





What is the situation ?

- **First victim** : not found
- **Witnesses** (including brother's victim) : still on via ferrata, unable to reach the top due to emotional shock.
- **Second victim (Rescuer)** : still in bad condition
- **Third victim (Medical doctor)** : Chest trauma, difficult breathing but able to move and walk.





Decisions

1. **Terrestrial operation** rescue for the witnesses (3 hours) from the top.
2. **MD evacuation** : short climbing and walk to a safe place in the cliff (400 m far away from accident area) + hoist operation (2 hour after accident).
3. **Accident area cleaning** and **protection** using chain saw to cut dangerous trees.
4. **Injured rescuer evacuation** by hoist operation on site (4 hours after accident)
5. **Rescue team evacuate** accident area walking down to the road (11:00 pm = 5 hours after accident)
6. **First victim research** was postponed to next morning





Analyze of hazard causes

1. Via ferrata accident



Leach rupture on
knot position



Misuse of an old via ferrata shock absorber leach

(victim made a knot to reduce leach length)





Analyze of hazard causes

2. Rescuer team accident

First accident of this kind (tree trunk rupture on big trees) since helicopter EC 145 (BK117) was used for mountain rescue in France.





Analyze of hazard causes

2. Rescuer team accident

National Forest Organization experts report :

Tree trunks had been injured by massive rock falls when via ferrata was built and cliff area was cleaned 10 years ago”



Trunks impacts was seen up to 30 m far from the cliff basis



“wood eating fungus and parasites development occurred on injured zones and weakened tree trunks basis”



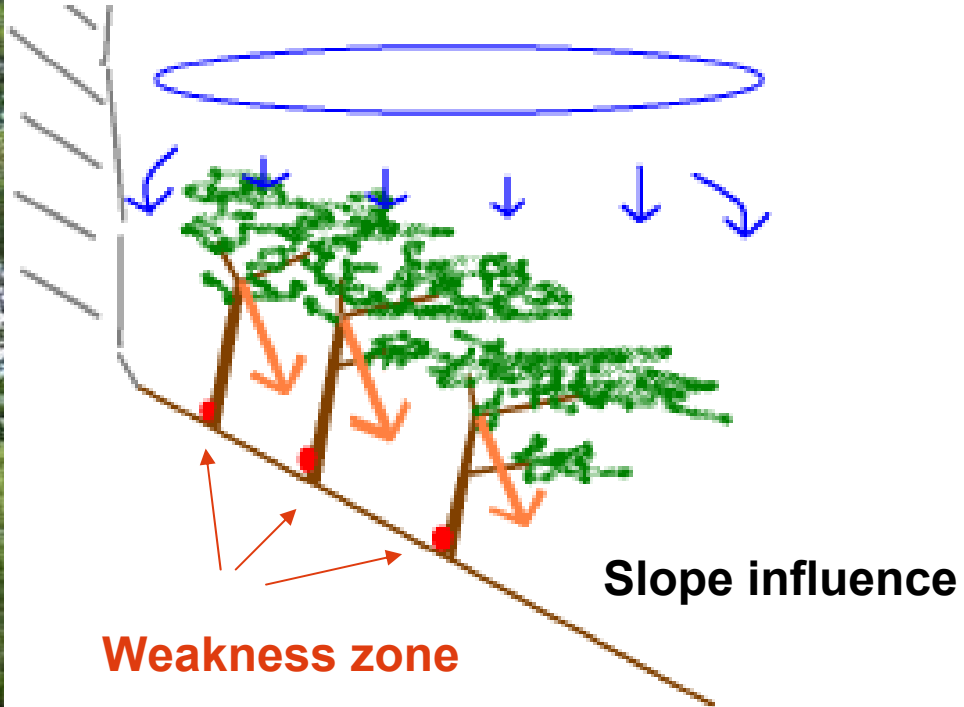
Helicopter turbulence was strong enough to break those weak trunks



Analyze of hazard causes

2. Rescuer team accident

Trunks are high and thin due to lack of light and fast development



Discussion

Could this accident happen again ?

YES !

- Under a self disintegrated cliff (rock falls in past decades)
- under a cleaned cliff, creating massive rock falls

NB : Any kind of tree could be involved up to 30 m far from the cliff

Prevention

1. Increase hoist operation height to reduce rotor turbulence
2. Choose a hoist operation area (for rescuer deposit) far away from cliff basis (at least 100m) in a suspected unsafe place.
3. For the victim evacuation : Hoist operation on site is **NOT AN OPTION** when trees are weakened by rock fall impacts.



Discussion



Unsafe area



An then



Laurent, mountain rescuer injured during the operation is now recovering from a complete quadriceps muscles rupture, pelvic bone and wrist contusion, he will probably go back to his mountain rescue job next winter

Marc, Medical doctor, suffered from 5 ribs fracture without lung or pleural failure. He was able to work again after 15 days

Autopsy of the first casualty reveals that death occurred immediately and was caused by the fall.

This accident has been debriefed by all the people involved, and will be used as an example during mountain rescue training

May this accident never happen again

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