

JetCTO Registry

Dear Investigators,
Dear collaborators,

The «Request for Opinion from the Ethics Committee» form is a document that should facilitate the work of:

> The secretariat of the Ethics Committee

- All administrative questions allow administrative secretaries to encode the data useful in our database.
- These data will be used for the proper management of the protocol by the Ethics Committee, for the various reports that we must provide, for the statistics of the Committee, etc ...

> The secretary of the Ethics Committee

- Given the number of protocols submitted for approval by the Committee, the secretary of the Ethics Committee cannot read all of the files submitted.
- The «Request for advice» allows him to get an idea of the proposed protocol and to direct it to one of the Committee's readers for examination and report during the meeting.
- As part of the follow-up of the study (we have ± 800 in progress), this summary document makes it possible to quickly re-locate the protocol.

> The reader whose mission is to present in session the scientific and ethical ins and outs of the submitted dossier.

The items discussed concern administrative aspects, the study protocol and its ethical aspects. It is therefore important for the proper management of your file that the data is correctly completed.

This document is written in «Microsoft Word» and must therefore be completed using this word processor. The boxes adapt to the amount of information written without limitation. **This document must be dated and signed.**

For the electronic version, the titles (Mr, Mrs, Dr, Pr), surname and first name of the principal investigator will replace the signature. Each Hospital Center, and therefore each local Ethics Committee, also has an on-line form to complete and the attached document represents a guide to help you complete it better.

For any request for additional information for the submission, do not hesitate to contact us by phone or email.

Here are the contact details:

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Thank you for your collaboration,
The JetCTO study coordination team

To Sir

Chairman of the Ethics Committee of

Mister President,

Please find below a request for an opinion from the ethics committee, which is entitled:

JetCTO: a retrospective multicenter registry for the evaluation of clinical outcome after coronary artery perforation during CTO procedures

We remain at your disposal for any further information that you would like about it.

Thank you for your attention, please accept, Mr. president, expressing my best regards.

Principal Investigator:

Signature:

Date:

Request for an opinion from the Ethics Committee of

(*)

(version of 12/01/2021)

1. DEPARTEMENT OF

(**)

2. HEAD OF DEPARTMENT (TITLE, FIRST NAME, LAST NAME):

3. PRINCIPAL INVESTIGATOR (TITLE, FIRST NAME, LAST NAME):

4. SPONSOR:
UMONS-University of Mons

5. PROTOCOL NUMBER AND DATE:
MLCT _001 version 1.1 dated 05/10/2021

6. NATURE OF THE EXPERIMENT:
- Non interventional (observation)

7. FULL INVESTIGATION PLAN:
See [annexe 1](#)

8. DISCIPLINE TO WHICH THE STUDY RELATES
(ONE ANSWER ONLY):
- Cardiology

9. STUDY ON:
- Interventional procedure / medical device

10. PROTOCOL SUMMARY:

It is a retrospective, multicenter registry, involving centers in Belgium and France, and later in other countries. Long-term clinical, procedural and angiographic results of patients eligible for the inclusion criteria will be collected in a secure online database.

The study was designed to retrospectively record the success of the procedure and the long-term clinical and angiographic results in patients who suffered coronary perforation during PCI performed on their CTO.

The aim of this study is to describe in a large international collaborative network the occurrence and outcome of perforations complicating a CTO procedure.

Coronary artery perforation (PAC) is a rare but serious complication of percutaneous coronary intervention (PCI) which, in many cases, can lead to cardiac tamponade, myocardial infarction, cardiogenic shock or even death.

The global incidence of CAP recently reported in a meta-analysis was 0.43%.

This incidence varies depending on the technique used.

Predictive risk factors have been identified in several studies and can be classified into two groups:

- Patient-related risk factors
- Risk factors linked to the procedure

Ellis defined a classification for coronary perforation. Type I perforation is an extraluminal crater without extravasation while type II is pericardial or myocardial blush and type III is extravasation through a blunt perforation of > 1 mm.

Treatment of coronary perforation requires urgent detection, classification, hemodynamic stabilization and specific treatment, which depends on Ellis classification and relies on prolonged balloon inflation in CAP type II and covered stents, and coil-induced embolization for type III CAP.

10. PROTOCOL SUMMARY:

Evaluation of the clinical outcome of CAP treatment has shown that the polytetrafluoroethylene stent is associated with a higher risk of stent thrombosis, pericardiocentesis and emergency surgery compared to papyrus or pericardial stents.

Emergency surgery to repair and ligate the vessel and bypass others is associated with poor outcome and prognosis.

Percutaneous transluminal coronary angioplasty (PTCA) consists of dilation of the coronary stenosis by inflation of a balloon in the lumen of the vessel improving the diameter of the coronary lumen and therefore perfusion.

Balloon angioplasty (POBA) was for years the only method used in the percutaneous treatment of patients with coronary heart disease (CAD).

Further development of stent-based technologies has improved the safety and efficacy of percutaneous coronary intervention (PCI) compared to balloon angioplasty alone. In some circumstances, excessive stretching of the vessel or perforation by the wire used to pass through the coronary stenosis / occlusion will result in perforation.

One or more stents are placed after POBA in most PCI procedures at the end to keep the artery wide open and prevent liminal recession. It is composed of a metal mesh. Some of them have been specially designed with a polytetrafluoroethylene membrane, or other biocompatible material in order to seal the coronary perforations.

Under fluoroscopy, while maintaining the position of the guidewire, the device is advanced out of the guide catheter into the selected coronary artery and positioned in the lesion centering the two radiopaque markers. Then, it must be inflated to the nominal pressure and the tightness of the perforation checked with contrast injection.

Safety assessment will be based on all adverse events (AEs) and serious adverse events (SAEs) found in patient hospital records, collecting clinically relevant abnormalities during physical examinations, vital signs and laboratory tests. .

The data will be collected in an online case report form, e-CRF, provided in [annexe 2](#).

No interim analysis will be performed.

At the end of the study, a report / publication will be drawn up under the responsibility of the steering committee.

11. PROTOCOL SYNOPSIS

| | |
|--|---|
| Title | JetCTO: a retrospective, multi-center registry evaluating the clinical and angiographic outcome of covered stents for the treatment of coronary perforation during CTO procedures. |
| Sponsor | UMONS With an unrestricted educational grant from MLCTO Academy . |
| Principal Investigator | Alexandre AVRAN, MD |
| Participating centers | BELGIUM : Centre Hospitalier Universitaire Ambroise Paré, Mons; Universitair Ziekenhuis Gent; Ziekenhuis Oost-Limburg Genk; Centre Hospitalier Jolimont, La Louvière; FRANCE : Clinique Pasteur, Nancy ; Groupe Cardiologie Interventionnelle Nice Côte d'Azur (GCINCA), Clinique St George, Nice; <i>Full list and registration available on https://academy.mlcto.com/</i> |
| Starting Date | November 1, 2021 |
| Version | 1.1 |
| Principle of Good Clinical Practice | The study will be conducted in accordance with the ethical principles of the Helsinki declaration and are consistent with ICH good clinical practice and regulatory requirements. |
| Confidentiality | This protocol is owned by the principal investigators and cannot - in whole or in part - be transmitted, reproduced, published or otherwise used without permission. |
| Device | Any CE mark approved covered stent. |
| Trial Design | Retrospective, observational registry. |
| Study Population | Retrospective clinical data of eligible patients, who meet the inclusion criteria, will be collected in an on-line database. |
| Duration of the Study | Study Initiation: November 2021 Study End: March 2023 |

11. PROTOCOL SYNOPSIS

| | |
|-----------------------------------|--|
| <p>Rationale</p> | <p>Coronary perforation occurring during a CTO procedure is a rare complication with potential major adverse cardiac events. The long-term clinical and angiographic outcome of such perforation that needs sealing with a covered stent need to be refined in a large international registry.</p> |
| <p>Study Endpoints</p> | <p>Primary Endpoint: To assess the long-term (>6 months) angiographic patency of any covered stent used to seal the perforation during a CTO procedure.</p> <p>Secondary Endpoint:</p> <ul style="list-style-type: none"> 1 - Clinical follow up of such patients suffering from a coronary perforation treated with a covered stent; 2 - Rate of complications (composite of cardiac death, myocardial infarction, major bleeding and cardiac tamponade) of the index procedure. |
| <p>Follow up</p> | <p>Clinical and angiographic status at 6-month.</p> |
| <p>Sample Calculation</p> | <p>The objective of the registry is to collect retrospective multicentric observational data of a rare major adverse event that can occur during a percutaneous coronary intervention (PCI) for the treatment of a chronically occluded coronary artery (CTO). As such a power calculation is not indicated and we will collect the events from all centers willing to participate in this collective registry.</p> |
| <p>Inclusion Criteria</p> | <ul style="list-style-type: none"> 1 - Chronic total occlusion lesion 2 - Objective perforation during CTO procedure 3 - Covered stent implantation 4 - Angiographic follow-up procedure |
| <p>Exclusion Criteria</p> | <ul style="list-style-type: none"> 1 - Patient <18 years old 2 - Pregnant female 3 - Contraindication to dual antiplatelet therapy 4 - Thrombocytopenia <100 000 5 - Patients not willing to participate retrospectively to clinical research |
| <p>Procedure Protocole</p> | <p>Patients will be treated following local standards. For this registry, the clinical events will be anonymously collected in a secured on-line database indicated for clinical research (https://projectredcap.org/).</p> |

12. CURRICULUM VITAE OF THE PRINCIPAL INVESTIGATOR

Max. 3 pages, less than <1 year old.

See [annexe 3](#)

13. ETUDE SPONSORISÉE ?

The sponsor of this clinical trial will be UMONS, which takes responsibility for initiating and managing this registry with an unrestricted educational grant from the MLCTO Academy. The University of Mons (UMONS) will host the anonymized clinical database on a Redcap server suitable for clinical research. The security of the registry will be assessed by an independent security committee. If necessary, follow-up actions will be defined and executed.

14. CERTIFICATE FROM THE INSURANCE COMPANY

IN ACCORDANCE WITH THE LAW OF 7 MAY 2004

In accordance with the European law relating to experiments on human persons, the Promoter will assume, even without fault, the responsibility for any violation of anonymized data suffered by a Patient of the Study and directly or indirectly linked to participation in this register, and will therefore provide compensation through its insurance. Sponsor must enter into an insurance contract to cover liability for any damage suffered by a Study Patient. See [annexe 4](#)

15. MULTICENTER STUDY FOR WHICH THE PROMOTER APPOINTED YOUR COMMITTEE AS:

- local ethics committee

16. FULL PROTOCOL

See [annexe 1](#)

17. DATA ANALYSIS METHODOLOGY

This research will focus on the analysis of data from paper or computer medical records. The data collected is described as follows in the study observation notebook.

18. OBTAINING CONSENT / REQUEST FOR EXEMPTION:

Most often, obtaining consent, as part of a registry retrospective represents an unrealistic or unethical approach. It is therefore appropriate that this request to the EC is made for an exemption from the principle of patient consent by justifying the reasons for this request:

Request for exemption for the following reasons (multiple answers possible):

- Obtaining consent unrealistic given the number of cases involved and the likelihood of having many patients who can no longer be reached.
- Risk of awakening a painful past.
- Risk of asking a family to process the data of a deceased person.

It will be necessary, after obtaining the approval of the Ethics Committee, to verify that the patient has not expressed a refusal to the use of his medical file for research purposes.

19. PROCEDURES IN PLACE TO PROTECT CONFIDENTIALITY

As part of this research, computer processing of personal data will be implemented in order to meet the scientific objectives of this study, for scientific research purposes. For this purpose, medical data concerning patients will be transmitted to the data controller and / or to persons acting on his behalf. These data will be identified by a code number so as not to reveal the identity, in accordance with the regulations and / or good practices in terms of medical research. These data may also, under conditions ensuring their confidentiality, be transmitted to the health authorities as well as to other departments of the study sponsor. All data recipients are subject to professional secrecy.

In order to ensure data protection, insurance has been taken out.

20. CONTACT DETAILS OF THE ETHICS COMMITTEE ACCOUNT:

IBAN:

Account name:

Communication:

21. NAME AND SIGNATURE OF THE HEAD OF SERVICE:

23. DATE:

24. REFERENCES

- [1] Nagalli S, Hajouli S. Coronary Artery Perforation. In: StatPearls. Treasure Island (FL): StatPearls Publishing, <http://www.ncbi.nlm.nih.gov/books/NBK554476/> (2021, accessed 9 May 2021).
- [2] Shimony A, Joseph L, Mottillo S, et al. Coronary artery perforation during percutaneous coronary intervention: a systematic review and meta-analysis. *Can J Cardiol* 2011; 27: 843–850.
- [3] Seshadri N, Whitlow PL, Acharya N, et al. Emergency Coronary Artery Bypass Surgery in the Contemporary Percutaneous Coronary Intervention Era. *Circulation* 2002; 106: 2346–2350.
- [4] Hussain HI, Prottly MB, Gallagher S, et al. The impact of coronary perforation in percutaneous interventions involving the left main stem coronary artery in the United Kingdom 2007-2014: Insights from the British Cardiovascular Intervention Society database. *Catheter Cardiovasc Interv Off J Soc Card Angiogr Interv* 2021; 97: E179–E185.
- [5] Kinnaird T, Kwok CS, Kontopantelis E, et al. Incidence, Determinants, and Outcomes of Coronary Perforation During Percutaneous Coronary Intervention in the United Kingdom Between 2006 and 2013: An Analysis of 527 121 Cases From the British Cardiovascular Intervention Society Database. *Circ Cardiovasc Interv*; 9. Epub ahead of print August 2016. DOI: 10.1161/CIRCINTERVENTIONS.115.003449.
- [6] Krishnegowda C, Puttegowda B, Krishnappa S, et al. "Incidence, clinical and angiographic characteristics, management and outcomes of coronary artery perforation at a high volume cardiac care center during percutaneous coronary intervention". *Indian Heart J* 2020; 72: 232–238.
- [7] Lemmert ME, van Bommel RJ, Diletti R, et al. Clinical Characteristics and Management of Coronary Artery Perforations: A Single Center 11 Year Experience and Practical Overview. *J Am Heart Assoc*; 6. Epub ahead of print 22 September 2017. DOI: 10.1161/JAHA.117.007049.
- [8] Nagaraja V, Schwarz K, Moss S, et al. Outcomes of patients who undergo percutaneous coronary intervention with covered stents for coronary perforation: A systematic review and pooled analysis of data. *Catheter Cardiovasc Interv Off J Soc Card Angiogr Interv* 2020; 96: 1360–1366.
- [9] Elison D, Dean LS. Cover up: Clinic outcomes of covered stent usage for coronary perforation during PCI. *Catheter Cardiovasc Interv* 2020; 96: 1367–1368.
- [10] Nair P, Roguin A. Coronary perforations. *EuroIntervention J Eur Collab Work Group Interv Cardiol Eur Soc Cardiol* 2006; 2: 363–370.

25. ANNEXES

- Annexe 1
- Annexe 2
- Annexe 3
- Annexe 4

INVESTIGATOR'S STATEMENT

JetCTO: a retrospective, multi-center registry for the evaluation of the clinical outcome after coronary perforation during CTO procedures

I confirm that the information provided in this request for an opinion to the Ethics Committee is correct.

I confirm that this study can be carried out in accordance with the protocol and the principles of Belgian legislation relating to the protection of the privacy of persons whose files will be used for research purposes.

I agree to exercise my responsibilities as principal investigator (PI) for this study.

I have taken the necessary steps to ensure the protection of patient privacy. This means:

- No identifying data will leave the institution,
- That no association of data (such as for example the true initials combined with the date of birth expressed in dd / mm / yyyy and the sex) which could possibly allow the re-identification of the donor will not leave the institution,
- That research data transmitted to third parties will be encoded.
- That any access to the source data and to the patient's medical file by third parties will be done under my direct supervision or that of one of my collaborators.
- That the computer files containing the data collected will be protected from misuse.

I undertake to transmit to the Ethics Committee

- the dates marking the progress of the study (1st access to the files and closure of the study),
- the study closure report.

Date:

Title, Last name, First name of the principal investigator.
Signature: