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REVIEW ON CLINICAL TRIALS AND PROTOCOL

[1]Vaishnavi P. Sutar, [2]Anagha B. Salvi, [3]Sakshi J.Jagdale, [4]Ritali V.Jadhav,[5]Ganesh R. Phadtare, [6]Dr. Sanjay R. Arote, [7]Shyam S. Awate

[1]Student, [2]Student, [3]Students, [4]Student,[5]Associate Professor,[6]Principal,[7]Associate Professor

[5]Department of Pharmacology

[1]Indrayani Institute of Pharmaceutical Education and Research, Talegaon Dabhade, Pune.

ABSTRACT

A clinical trial is a research study in human volunteers to answer specific health questions.carefully conducted clinical trials are fastest and safest way to find treatment that work in people and way to improve health.The clinical trials can be divided in various phases which five phases ,i.e 0,I,II, III and IV trials.clinical trials aim to measure therapeutic effectiveness and constitute an important and highly specialized form of biological assay .In phase I pharmacokinetics, safety, gross effects are studied on human volunteers,by clinical pharmacologists.If the drug passes the test ,it enters phase II testing where pharmacokinetics safety, therapeutic efficiency are studied on selected patient by clinical pharmacologists, if passes hundreds of selected patients are now studied , primarily for safety and therapeutic effectiveness by clinical investigators in phase III.If this is passed the drug is now approved marketed. Even after marketting, physician from various hospitals and clinics end their opinion about the drug, regarding ADR , efficacy in phase IV.

Keywords – Clinical trial, Preclinical studies, Clinical trial protocol

INTRODUCTION

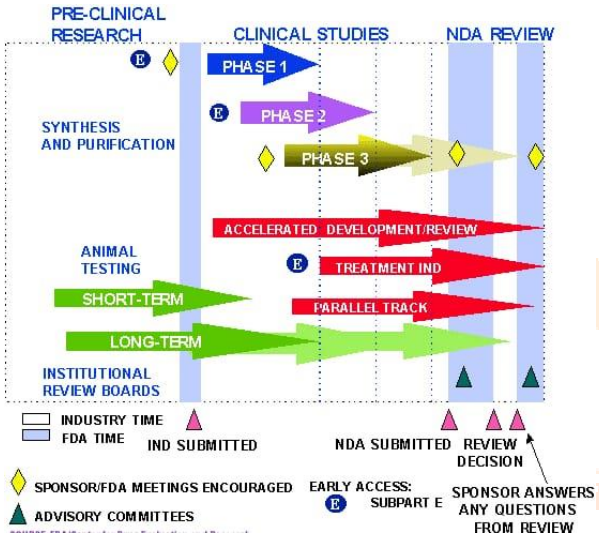
A clinical trial can be defined as a process designed to determine the safety and efficacy of a particular drug or device in humans1-2. According to WHO, a clinical trial is a research study that prospectively assigns people to one or more health-related interventions to assess their impact on health outcomes. In general, clinical trials were conducted when satisfactory nonclinical safety quality information was available and approved by the relevant drug or device agency. It has been known from the beginning that testing depends on the quality of products associated with different stages of product development. First, researchers select volunteers or patients in small batches and conduct clinical trials4-6. After collecting positive data on safety and efficacy, the number of patients will increase. In addition, clinical trials have been conducted in several countries. Additionally, clinical trials involve new drugs that can be divided into four phases. Each phase will be treated as a separate clinical trial for drug approval. Clinical trials can usually be divided into five phases. H. 0, I, II, III and IV7-8. Phase 0 trials were assigned to pharmacodynamics and pharmacokinetic studies. Phase I includes screening and safety. Phase II, on the other hand, involves establishing a trial protocol. Use Phase III

as final test. Phase IV post-approval studies 4-6. Additionally, the clinical trial phase is the process by which scientists conduct tests in sound mediation to find sufficient evidence of a process that has been medically useful. For drug trials, phases began with drug development and discovery, progressed to animal testing, and finally to human volunteers9-10.

PHASES OF CLINICAL TRIALS

Preclinical Studies -

Preclinical studies include in vitro studies (test tube or laboratory studies) and studies in animal populations. A wide range of doses of investigational drugs may be tested in laboratory animals or in vitro substrates to provide preliminary information on efficacy, toxicity, and pharmacokinetics and to help pharmaceutical companies determine whether further studies are worthwhile.



Phase 0

Phase 0 is a new designation for first-in-human exploratory research conducted under US regulations. In 2006, the Food and Drug Administration (FDA) will conduct an exploratory research study (IND) on new drugs. Phase 0 trials are designed to accelerate the development of a promising drug or imaging agent by determining at a very early stage whether the drug or drug will work in humans as expected in preclinical studies. I'm here. A distinguishing feature of phase 0 trials is that a small number of subjects (10 15 subjects) receiving a single sub-therapeutic dose of study drug. body).

Phase I

The first phase of the study is the first phase of human trials. A small group (20-80) of healthy volunteers was selected. This phase includes studies to assess drug safety (pharmacovigilance), tolerability, pharmacokinetics, and pharmacodynamics. These studies are often conducted in inpatient clinics where staff can observe them daily. Subjects administered the drug are usually observed until several half-lives of the drug have passed. Phase I trials usually involve doses, called dose-escalation trials, to find the right dose to use in treatment. The test dose range is usually a fraction of the dose that causes harm in animal studies. Phase I trials involve mostly healthy subjects. However, there are some situations where real patients are used, such as: B. terminally illdisease and no other treatment options. These exceptions are more common in oncology (cancer) and HIV drug trials. Volunteers are paid for their time at the event. The cost varies from a small amount for short-term accommodation to around £4,000 depending on the duration of the engagement. I There are several types of skill tests:

1. SAD

Single-dose-escalating studies give small subjects a single dose of the drug while being observed and tested at various times. If no adverse effects were observed and the pharmacokinetic data were approximately consistent with predicted safe values, the dose was increased and a new group of subjects was given a higher dose. This continues until the calculated pharmacokinetic safety threshold is reached or unacceptable side effects occur, at which point the drug reaches its maximum tolerated dose (MTD).

2. MAD

Multiple dose studies will be conducted to better understand thepharmacokinetics and pharmacodynamics of multiple doses of the ARTdrug.

Phase II

After the initial safety ofthe investigational drug was established in thePhase I trial, a Phase II trial was conducted in larger groups (20-300 people) to assess the efficacy and safety of the drug. Evaluate the phases. Me.Proceed to Gender Evaluation. with large groups of volunteers and patients.When the drug development process fails, it usually occurs during a Phase II trial in which the drug has not been developed or is found to be toxic. Phase II trials are sometimes divided into Phase IIA and Phase IIB. Phase IIA is specifically designed to assess medication need (amount of drug administered). Some studies combine Phase I and Phase II to test efficacy and toxicity.

Phase III

Phase III trials are multicenter randomized controlled trials in large groups of patients (300-3,000 or more depending on the disease/medical condition being studied) and aim to accurately assess how effective the drug is compared to the current "gold standard". treatment. Because of their size and relatively long duration, Phase III trials are the most expensive, time-consuming, and difficult trials to design and conduct, especially in treatments for chronic medical conditions. It is common practice for certain Phase III trials to continue while regulatory submissions are pending by the appropriate regulatory agency. Although not required in all cases, at least a successful Phase III trial is generally expecteddemonstrate the safety and efficacy of the drug to obtain approval from the relevant regulatory agency (FDA (US), TGA). manufacturing procedures, formulation details and shelf life. This collection of information is a "regulatory submission" for review by the relevant supervisory authorities in various countries.

Most drugs undergoing Phase III clinical trials can be marketed in accordance with FDA regulations with appropriate warnings and instructions, but if adverse effects are reported, the drug must be immediately recalled from the market. It is not uncommon to see many drugs on the market undergoing Phase III clinical trials, although most pharmaceutical companies avoid this practice.

Phase IV

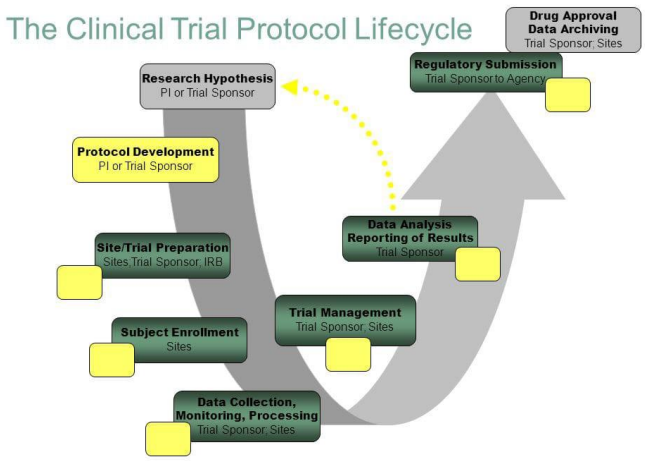
Phase IV experience trials are also known as post-marketing surveillance trials. IV effectiveness testing includes safety monitoring (pharmacovigilance) and ongoing technical support for drugs after marketing approval. Phase IV trials may be required by regulatory agencies or sponsoring companies for competitive reasons (to find new markets for drugs) or other reasons (e.g. certain populations such as pregnant women are less likely to be tested). Safety monitoring is designed to detect rare or long-term adverse events among a larger number of patients and over a longer period of time than is possible in phase I-III clinical trials. Adverse effects found in IV drug testing may lead to discontinuation of the drug or restriction of certain uses. Recent examples include cerivastatin (brand name Baycol andLipobay), troglitazone (Rezulin), and rofecoxib (Vioxx) 2.

TYPES OF CLINICAL TRIALS

1.Therapeutic Trials
Trials of experimental treatments, new drug combinations, or new approaches to surgery or radiation therapy.
2. Prevention Research
Finds better ways to prevent disease in people who have never had it, or to prevent disease from recurring. These approaches may include medications, vitamins, vaccines, minerals, or lifestyle changes.
3. Diagnostic Attempts
Conducted to find better tests and procedures for diagnosing a particular disease or condition.
4. Screening Studies
Tests how best to detect certain diseases and conditions.
5 The Quality of Life
study (or supportive care study) investigates ways to improve comfort and quality of life for people with chronic illness.

CLINICAL TRIAL PROTOCOL AND PROTOCOL AMENDMENT

The content of the research protocol should generally include the following topics: However, site-specific information may be provided on separate protocol pages or covered by separate agreements. Additionally, some of the information below may be contained in other referenced protocol documents. B. Examiner's Brochure.



1.General Information

1.1 Log title, log identification number, and date. Each change must also include the number and date of the change.
1.2 Name and address of Sponsor and Monitor (if not Sponsor).
1.3 The name and title of the person authorized to sign the sponsor's protocol and protocol amendments.
1.4 Name, title, address and telephone number of the sponsor's medical assessor (dentist, if applicable).
1.5 The name and title of the researcher responsible for conducting the research, and the address and telephone number of the research facility.
1.6, title, address and telephone number (other than the investigator) of the qualified physician (or dentist, if applicable) responsible for all medical (or dental) decisions related to the study site; duals
Names and addresses of clinical laboratories and other medical and/or technical departments and/or institutions involved in the investigation.

2.Background Information

2.1 Name and description of Investigational Product.
2.2 Summary of findings from potentially clinically relevant non-clinical and research-related clinical studies.
2.3 Summary of known and potential risks and benefits to humans.
2.4 Description and justification of route of administration, dosage, dosing regimen and duration of treatment.
2.5 Statement that the study will be conducted in accordance with the protocol, GCP, and applicable regulatory requirements.
2.6 Description of population tested.
2.7 References to literature and data relevant to the study and providing background to the study.

3.Trials objective and purpose

A detailed description of the objectives and objectives of the audit.

4.Trial design

4.1Study design

The scientific integrity of the research and the reliability of the study data are highly dependent on the study design. A description of the study design should include:

4.2 Outline the type of study / design (double blind, placebo-controlled, parallel design, etc.) and study design, procedures and phases.

4.3 Description of measures taken to reduce / prevent bias.

(b) shiny.

4.4 Description of dosage and study treatment and investigational drugs. Also, the description, packaging, and labeling of the dosage form of the research product.

4.5 The expected duration of subject participation, and the schedule and duration of all trial periods, including follow-up care, if applicable.

4.6 Statement of 'assessment rules' or 'assessment criteria' for individual subjects, parts of the examination and the whole examination.

4.7 Liability procedures for research tools, including placebo and comparators (if applicable).

4.8 Maintain the study treatment randomization code and code breaking procedure.

4.9 All information recorded directly in the CRF (ie not previously recorded in paper or electronic form) is identified and treated as source data.

5.Selection and withdrawal of subjects

5.1 Technical Inclusion Criteria.

5.2 Technical Exclusion Criteria.

5.3 Procedures to specify discontinuation criteria (i.e., discontinuation of treatment with investigational drug/experimental therapy) and procedures specifying:

(a) When and how a subject will discontinue treatment with an investigational/investigational product.

(b) Nature and Timing of Data Collected About Discontinued Subjects. Whether and how to replace the subject.

© Follow-up of Subjects Who Discontinue Investigational/Experimental Treatment.

6.Treatment of subject

.6.1 study the treatment/treatment group/process arms to be administered, including product name, dose, dosing regimen, route/modality of administration, and duration of treatment, including duration of subject follow-up for each study drug treatment;

6.2 Medication /treatments are allowed (including rescue medications) but not before and/or during the study.

6.3 Procedures for Monitoring Subject Compliance.

7.Assesment of Efficacy

.7.1 description of validity parameters;

7.2 Methods and timing of evaluation, recording and analysis of efficacy parameters.

8.Assessment of safety

.8.1 specification of security parameters;

8.2 Methods and schedules for the evaluation, recording and analysis of security parameters.

8.3 Adverse Event and Concomitant Disease Reporting and Recording and Reporting Procedures.

8.4 Type and duration of follow-up care for volunteers after adverse events.

9.Statistics

.9.1 A description of the statistical methods used, including timetables for planned interim analyses.

9.2 Number of subjects to be registered. For multicenter studies, the number of subjects enrolled per study center should be reported. Rationale for sample size selection, including considerations (or calculations) related to research power and clinical validity.

9.3 The significance level to use.

9.4 Criteria for terminating the procedure.

9.5 Procedures for accounting for missing, unused and inaccurate data.

9.6 Procedures for reporting deviations from the original statistical plan (deviations from the original statistical plan should be explained and justified in the minutes and/or final report as appropriate).

9.7 Selection of subjects to be included in the analysis (eg, all randomized subjects, all treated subjects, all eligible subjects, evaluable subjects).

10.Direct Access to source Data/Documents

The Sponsor shall ensure that the Investigator/Institution authorizes trial-related oversight, audits, IRB/IEC reviews and regulatory inspections and provides direct access to source data/documents in a protocol or other written document. Must be specified in the agreement.

11.Quality Control and Quality Assurance

12.Ethics

Description of ethical considerations relating to the trial.

13.Data Handling and Record Keeping

14.Financing and Insurance

Financing and Insurance if not addressed in a separate agreement.

15.Publication Policy

Publication policy, if not addressed in a separate agreement.

16 .Supplements

(NOTE: Since the protocol and the clinical trial/study report are closely related, further relevant information can be found in the ICH Guideline for Structure and Content of Clinical Study reports.)

CONCLUSION

A clinical trial will be conducted in human volunteers to confirm the beneficial properties of the new drug. After preclinical development, a new investigational drug progresses through clinical phases I, II, III, and IV. A detailed description of the post-service will be provided. A protocol is a document that describes how a clinical trial will be conducted and ensures the safety of trial participants and the integrity of the data collected.

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